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## Shri Nitin Gadkari

Honourable Minister of Road Transport & Highways; Shipping and Water Resources, River Development & Ganga Rejuvenation, Government of India



# Excerpts of Speech delivered at Dun & Bradstreet - Everest Industries Infra Awards 2017

- ❑ The road construction in 2014-15 stood at 12 kms/day, while currently it stands at 28 kms/day. The Ministry of Roads Transport and Highways expects to achieve the target of constructing 40 kms/day of roads by next year.
- ❑ The Government plans to build good quality roads and reduce the cost through the development of cement-concrete roads
- ❑ Through monetization of roads, the MORTH plans to raise ₹ 1,250 bn. The Government has already allowed the MORTH to raise ₹ 700 bn from the capital market.
- ❑ The Ministry is planning to raise the money for the road projects from the Indian investors. The road projects IRR is 12% while the traffic growth in India is 22% per year, indicating the pace at which the road projects would have to be executed. These figures should serve to build confidence amongst the Indian investors to invest in the road projects.
- ❑ Under Bharatmala project, the government is planning to build several express highways. Few of these express highways whose construction has already begun are Delhi-Meerut express highway which is a 14-lane road from Delhi's Swami Narayan Mandir in Delhi to Dasna in Ghaziabad and from Dasna to Meerut is a green express way of 6 lanes, which is expected to be completed by next year.
- ❑ The Government has already awarded the tender for Mumbai-Vadodara express highway and cost of the project is ₹ 440 bn which would be constructed using an EPC model. The purpose of using an EPC model is to ensure timely financial closure of the project.
- ❑ The Government is planning seven more express ways such as Delhi – Jaipur express way which is aimed at uplifting the backward areas of Rajasthan, Delhi to Katra, Amravati to Bangalore, Bangalore to Hyderabad, Nagpur to Hyderabad, Amravati to Hyderabad.
- ❑ Under Bharatmala project, the government has also cleared Sagari Mahamarg going from Mumbai to Alibag and will be extended to Goa. The Government plans to make this road in to a major tourist attraction.
- ❑ The Ministry is also planning to build 35 logistics parks which are very important to reduce the logistics costs in India. In India the logistics cost is 18%, while in China it is 8% to 10% and in European countries it is 12% to 13%.
- ❑ With the Indian automobile industry growing at a pace of 22% per year, it has become necessary to add one new lane to the national highways every three years and cost of constructing one lane would be more than ₹ 800 bn after three years.
- ❑ The Government also plans to give highest priority to waterways and coastal transport, under which 111 rivers have already been converted in to waterways totaling to a length of 20,000 kms of waterways.
- ❑ Under the Ministry of Shipping and Ports, there are 200 private and minor ports with the state governments and 12 major ports with the central government. In last few years, the major ports have become more efficient than the private ports.
- ❑ In order to enhance the traffic handled at major ports, the government is planning mega initiatives; one of which include constructing 8 lane road from JNPT to Panvel.
- ❑ To enhance the usage of inland waterways, the government is building more than 2,000 river ports, of which the work has already started in Ganga, Brahmaputra rivers etc. The Ministry of Shipping is also planning to build waterway to take the ships directly to Myanmar through Bangladesh.
- ❑ The government is constructing cruise terminal in Mumbai and Kochi. One such terminal is already operational in Goa
- ❑ While the work on development of ports is on fast track, the government plans to encourage usage of ethanol, methanol, bio-diesel, etc as the fuel for the Indian transport sector.

# India's Leading Infrastructure Companies 2017

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## India's Leading Infrastructure Companies 2017

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# Preface

Dun & Bradstreet India is proud to announce the 2017 edition of its premier publication '**India's Leading Infrastructure Companies**'. The publication, currently in its 10th year, is an insightful compendium of India's infrastructure sector and captures the pulse and trends in the sector. In addition, it also provides valuable information about the performance and key developments of leading companies from the core infrastructure sectors – Construction, Ports, Power, Oil & Gas and Telecom.



The impact of well-developed infrastructure on an economy is well established. However, India's focus on infrastructure has been largely limited to two sectors, Roads and Electricity. At Dun & Bradstreet, we compared infrastructure in India with that of selected developed economies such as USA, UK, Japan, Germany, France and Canada ("Top Six"). A comparison between India and these countries shows that, India invests only US \$120 per capita per year in infrastructure, which is one tenth of what the "Top Six" countries invest on an average i.e. US \$1,200 per capita per year. As a result of this, availability of quality infrastructure in India has been relatively poor.

The intent of the Indian government to create world-class infrastructure can be seen in the recent announcements on investment in this sector and various structural policy initiatives taken. The impact of these initiatives can be seen in India's rank in the WEF's Global Competitiveness Index, which has improved significantly from 71st position in 2014-15 to 40th position in 2017-18. During the same period, a similar improvement was observed in the "Infrastructure Sub-index", under which India's rank improved from 87th position to 66th position.

Further, the government is taking several initiatives to eliminate bottlenecks in the infrastructure sector such as delays in obtaining clearances, funding constraints and land acquisition issues. Few of these initiatives include the launch of a portal for single window clearance, creation of the National Investment and Infrastructure Fund (NIIF), and re-examination of Viability Gap Funding (VGF) Scheme to fill the funding gap. The positive impact of these initiatives can be seen in the number of projects delayed as a percentage of total projects under implementation, which has declined from 45.7% in March 2015 to 27.9% in March 2017. India is making significant strides in infrastructure development, but has a journey to traverse in order to achieve high quality infrastructure with comparatively lower investments.

Dun & Bradstreet India will continue to monitor the infrastructure sector through the '**India's Leading Infrastructure Companies**' series. We are confident that this publication will serve as a ready reference tool for business leaders globally.

I hope you enjoy reading '**India's Leading Infrastructure Companies 2017**' and I look forward to receiving your suggestions.

Manish Sinha  
Managing Director – India  
Dun & Bradstreet

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# Foreword

Dun & Bradstreet India is pleased to announce the launch of the tenth edition of its publication titled '**India's Leading Infrastructure Companies 2017**' on the Indian Infrastructure sector. The publication highlights the current trends and future prospects of the various sub-segments of India's Infrastructure sector and also profiles the major players in the industry.



Since the turn of the century, infrastructure sector has been considered as the sunshine sector in India and has played an important role in enabling the country to become one of the fastest growing economies in the world. The global financial crisis in 2008, coupled with factors such as weak macroeconomic conditions and inflationary environment in India, a policy deadlock, delays in land acquisition and environmental clearances, and political instability had marred the growth of the sector in the recent past. However, since 2014, the sector has been witnessing a revival on account of several measures taken by the Indian government.

The measures introduced by the Indian government, to improve India's image in the world by offering favourable business environment and better investment opportunities, have begun to pay-off. During the last three years, India's rank in WEF's Global Competitiveness Index has improved significantly from 71st position in 2014-15, to 55th position in 2015-16, to 39th position in 2016-17 and to 40th in 2017-18. In terms of overall infrastructure development, India's rank has improved from 81st position in 2015-16 to 66th position in 2017-18 due to improvement in overall quality of roads, railways, ports and electricity supply.

Despite this improvement, lack of availability of adequate infrastructure continues to remain a bottleneck for India's overall development. If India has to bridge the gap in its infrastructure development, it is imperative to connect rural areas and make them a part of the mainstream economy, address several issues such as land acquisition, infrastructure financing, and delay in obtaining clearances plaguing the infrastructure sector.

The Government is taking several measures such as facilitating private sector investment, facilitating long-term refinancing of bank loans, and providing policy support to revitalize PPP projects in order to accelerate the pace of infrastructure development in the country. Further, India is increasingly focusing on augmenting its power generation capacity, enhancing regional connectivity through roads and railways and also on development of port infrastructure in order to provide better infrastructure support. The latest budgetary outlay for infrastructure spending has been increased to ₹ 3,960 bn for various projects including housing, railways, ports and irrigation. All these measures, along with accelerated awarding of projects will enable India to prepare itself for the next phase of economic growth.

We are confident that '**India's Leading Infrastructure Companies 2017**' will serve as a well-researched compendium on the Indian infrastructure sector. Dun & Bradstreet's global footprint and market reach will ensure that the publication will draw the attention of global industry leaders and policy makers towards the Indian Infrastructure sector. We look forward to receiving your feedback and suggestions.

Preeta Misra  
Director – Learning & Economic Insights Group  
Dun & Bradstreet India



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# Executive Summary

The publication 'India's Leading Infrastructure Companies' is an endeavour of Dun & Bradstreet to highlight the role of infrastructure in the Indian economy by featuring and analysing the performance of the leading companies in the sector. The tenth edition of the publication titled 'India's Leading Infrastructure Companies 2017' covers five key infrastructure segments - construction, oil & gas, ports, power and telecom. The publication profiles the leading players of the Infrastructure sector that have FY17 annual total income of ₹ 1,000 mn and above. The publication profiles 97 companies across key infrastructure segments, of which 53 companies belong to the construction segment (including development of airports & seaports, industrial units, roads, railways, and SEZ), 19 in the power segment, 16 companies in the oil & gas segment, four in the ports segment and five in the telecom segment.



The theme 'Infra Next: Faster, Greener, Smarter' is very relevant in the context of India's infrastructure development. It speaks about how India's infrastructure sector ought to evolve in the years to come. With India looking to grow at a faster pace, there is an urgent need to develop quality infrastructure at a faster pace in order to support the growth rate. The infrastructure of the future needs to be able to leverage the use of advanced technologies and techniques so that project execution is faster. Further, in keeping with the need of the times, it is necessary to come up with environmental friendly methods to build infrastructure and also enhance the usage of green energy. Likewise, the development of Smart Cities is crucial to improve the quality of life and to attract investment, which will in turn set in motion a cycle of growth and development, while not compromising on a clean and sustainable environment.

Following are some of the key highlights in this publication:

- During FY17, construction of highways touched an all-time high of 8,200 km, which is significantly higher than 6,029 km completed last year; this translates into construction of 22 km of roads & highways per day. The construction target for roads and highways in FY18 has been set at 41 kms/day.
- In FY17, the passenger traffic handled by Indian Railways (IR) stood at 8,219 mn as compared to 8,152 mn passengers in FY16; the revenue earnings of the IR from passengers stood at ₹ 462.8 bn in FY17 as compared to ₹ 453.7 bn in FY16.
- During FY17, the passenger traffic (domestic + international) at Indian airports rose by a robust 18.3% to 265 mn, from 223.9 mn a year ago. The total freight handled by Indian airports rose by 10% from 2.7 mn tonnes in FY16 to 3.0 mn tonnes in FY17. In order to enhance regional connectivity, during FY17, the Government launched Regional Connectivity Scheme (RCS) – UDAN to create 125 new routes and connect 45 unserved and underserved airports through five airlines.
- During FY17, all ports in India (major and minor) collectively handled total cargo traffic of about 1,817.3 mn tonnes against 1,072.5 mn tonnes in 2015-16, which translates into an increase of 69.5% over FY16.
- India's installed power generation capacity has grown from 199.9 GW in FY12 to 326.8 GW in FY17, registering a CAGR of 10.3%. During FY17, India added 46.5 GW to its existing power generation capacity, which translates into an increase of 16.6% over the previous year.

We are confident that 'India's Leading Infrastructure Companies 2017' will provide the right platform for the profiled companies that are playing a key role in transforming the infrastructure sector. Dun & Bradstreet will continue to track this transformation and capture the pulse of this critical industry through future editions of this publication.

Naina R Acharya  
Deputy Leader - Operations  
Learning & Economic Insights Group  
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# Message



Aditya V Somani  
Chairman  
Everest Industries Limited



It's great that every year D&B recognizes the best infra projects and companies in India.

That's very important. To push the bar for developing our emerging nation. India has been in the "high potential", "about to explode economy" zone for far too long. High time we all did something about it. She's been pregnant for 70 years!! That's way too long. We have to deliver the economy baby and get it to grow fast. We really don't have the luxury of time.

Everest is shaped around this philosophy-Deliver projects faster through better planning, full kitting and reducing on-site work to the bare minimum and providing better and better ready-to-install building materials.

Yes, faster speed and superior quality comes at a higher upfront cost but significantly lowers total project risk and the payback period. It's a non brainer. We must throw out the L1 mentality and make speed an important technical criteria.

Our motivated people at Everest would be delighted to work with you to shorten your project cycles. Let us build India with strength, speed and safety.

God speed and good luck.


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# Methodology

For the purpose of the publication '**India's Leading Infrastructure Companies 2017**', infrastructure has been defined to include five key segments, viz., construction, oil & gas, ports, power and telecom. Construction segment includes construction of facilities such as roads & highways, railways, power projects, ports and airports, IT parks, industrial plants, townships, etc. The publication therefore focuses on those companies involved in expansion of physical infrastructure.

Due care has been taken to ensure that the publication covers infrastructure companies located across the length and breadth of the country. Based upon Dun & Bradstreet's in-house database and industry association members' lists, we identified a large universe of companies. The companies were contacted through direct mails, reminder letters, telephone calls, faxes, emails and through social networking, apart from advertisements in India's leading business dailies inviting them to participate in the awards. Every effort was made to ensure greater participation. However, companies that have not responded with FY17 financials statements, and/or their information was not available in public domain, have not been included. Companies that have explicitly declined to participate have also been left out.

As a basic selection criterion, companies with a standalone total income of ₹ 1,000 mn and above having year end between 1st April 2016 and 31st March 2017 are featured in this publication. The publication includes diversified companies with substantial presence in construction, oil & gas, ports, power, and telecom services, and whose standalone turnover figures are available have been considered. Subsidiaries and associate companies that have satisfied the eligibility criteria have also been featured. A thorough corporate governance checks were conducted on all eligible companies to prepare the final list of companies to be featured in the publication.

*\* Weak macroeconomic conditions in India in the past few years have impacted the financial health of many Indian infrastructure companies. There have been instances wherein companies faced difficulties in servicing their debt and approached the Corporate Debt Restructuring (CDR) cell for restructuring the debt. In such CDR cases (where information is public), an additional criteria set, which includes loan defaults, substantial networth erosion, corporate governance etc. has been applied to include and exclude companies from the publication. Further, the companies on whom the insolvency proceedings have been initiated under the National Company Law Tribunal (NCLT) have also been excluded from the publication.*

The information contained in this book is sourced and compiled from company websites and information available in the public domain such as annual reports/audited financial statements, draft red herring prospectus, industry bodies and associations, Government of India websites such as Reserve Bank of India, Securities and Exchange Board of India, Economic Survey, Central Statistical Organisation, National Highways Authority of India, Planning Commission, Telecom Regulatory Authority of India, Department of Telecommunications, etc. The information has been further verified and authenticated to ensure its accuracy.

Companies for which updated information for the financial year 2017 was not available have been excluded from the comparative listings. A standardised format has been used for reporting the information on the companies. The editorial team of Dun & Bradstreet would appreciate feedback from readers in terms of updates regarding any changes in their companies, as and when they occur.

Each company featured in the publication has been allotted a unique identification number (D-U-N-S® - Data Universal Numbering System). This will help readers locate and obtain full-fledged information reports on these companies from the Dun & Bradstreet database.

We are confident that '**India's Leading Infrastructure Companies 2017**', the tenth edition of India's Leading Infrastructure Companies series will serve as a platform for business leaders to network and to showcase their capabilities. We would be glad to receive valuable feedback and suggestions.



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# Definitions & Calculations

This section defines financial terms and ratio used in this publication.

- Total Income - Refers to the revenue plus other income but excludes any movement in Inventory. The revenue is the net of excise duties, sales tax, inter-unit transfers and other government levies. Interest and subsidies are added to Total Income.
- Net Profit - Is profit after tax as reported by the company. Tax includes all provisions required and any other tax adjustment specifically mentioned.

## Ratios

Particulars	Formulae
EBITDA	Profit Before Tax + Interest Expense + Depreciation and Amortisation Expense
EBIT	EBITDA – Depreciation and Amortisation Expense
EBITDA Margin (%)	$(\text{EBITDA}/\text{Total Income}) * 100$
Net Profit Margin (NPM) (%)	$(\text{Net Profit}/\text{Total Income}) * 100$
Return on Net Worth (%)	$(\text{Net Profit}/\text{Average Net Worth}) * 100$
Capital Employed	Long term debt + Net Worth
Return on Capital Employed (%)	$(\text{EBIT}/\text{Average Capital Employed}) * 100$
Return on Assets	$(\text{PAT}/\text{Average Total Assets}) * 100$
Debt-to-Equity (times)	$(\text{Total Debts}) / \text{Shareholder's Fund}$
Shareholder's Fund	Equity Share Capital + Preference Share Capital+ Reserves and Surplus – Accumulated Losses – Deferred expenses
Total Debt	Short Term Debt + Long Term Debt
Total Assets	Non-Current Assets + Current Assets (excluding accumulated losses and deferred expenses)
Average Total Assets	$(\text{Opening Total Assets} + \text{Closing Total Assets})/2$
Average Net worth	$(\text{Opening Net worth} + \text{Closing Net worth})/2$
Average Capital Employed	$(\text{Opening Capital Employed} + \text{Closing Capital Employed}) / 2$
Interest Coverage (times)	EBIT/Interest Expense



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# **OVERVIEW OF INDIAN INFRASTRUCTURE SECTOR**

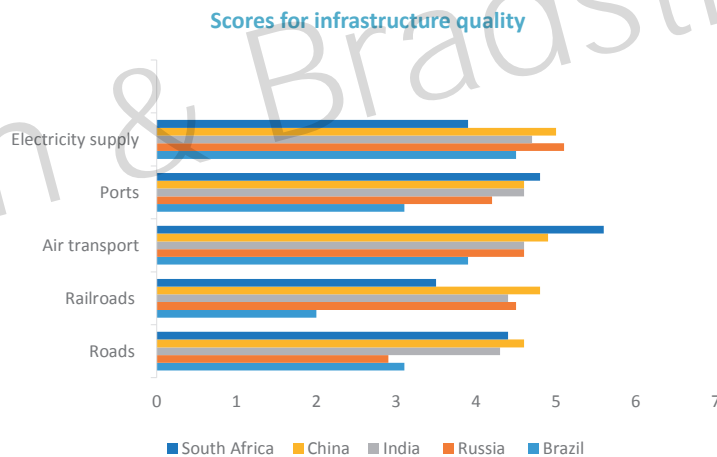
# Overview of Indian Infrastructure Sector

India is amongst top 40 countries in the world as per Global Competitive Ranking 2017-18 by the World Economic Forum (WEF). It was one notch down to 40th rank over last year, yet with an improved score. This improvement in the score was driven by improvement across majority segments of competitiveness including higher education and training (75th, up 6 ranks), technological readiness (107th, up 3 ranks) and infrastructure (66th, up 2 ranks), ICT indicators such as includes Internet bandwidth per user, mobile phone and broadband subscriptions, and Internet access in schools. Infrastructure ranking moved up two ranks in 2017-18 compared to 13th rank in 2016-17. Infrastructure ranking focuses on overall infrastructure, rail, roads, air transport service, ports, fixed telephone lines, mobile phone subscribers and electricity supply.

## Overall Infrastructure Ranking

Country	Overall Infrastructure Ranking			Variation (2017-18 vs 2016-17 )
	2017-18	2016-17	2015-16	
India	66	68	81	↑
China	46	42	39	↓
Russia	35	35	35	=
South Africa	61	64	68	↑
Brazil	73	72	74	↓

Source: World Economic Forum



Source: World Economic Forum

## Indian Infrastructure Overview

Infrastructure is the basic physical and organizational structures and facilities needed for the operation of a society or enterprise. Infrastructure facilitates the economic growth and is used as a measure of a country's development. Infrastructure comprises of following sector:

## Transportation:

### Railways

Indian Railways is the world's largest government-owned railway and the third largest after the USA and China in terms of rail network with a length of over 66,600 route kilometer. Railway saw an increase in passenger and freight traffic, however missed the revised revenue target. Railways plans to increase the revenue through external and internal advertisements. Government has also taken various initiatives to ensure digital transformation. It has launched schemes like RailWire Saathi and Aadhar based ticketing and e-ticketing to promote cashless and paperless transactions. Government has started 'Mission 41K' which plans to save ₹ 410 bn over next 10 years through energy efficiency and procurement optimization, and help reduce the operating costs in the future.

### Roads & Highways

In FY 2017, India had the second largest road network in the world after the USA, with a total road length of about 5.47 mn kms. Government has set an ambitious target of constructing highway of 40 kms per day in 2017-18, from 22 kms per day in 2016-17. It also plans to double the length of national highways from 103,933 kms to 200,000 kms by 2018-19. SARDP-NE was launched to improve the road connectivity in the remote areas of North-East. Government has launched Bharatmala with an aim to provide last mile connectivity at border points and trade routes connecting neighbors. A National Road Safety policy has been approved to promote awareness and implement safety standards. It aims to reduce the number of road accidents and casualties by 50% by 2020.

### Aviation

India is the third largest aviation market in the world in 2016-17, after the USA and China. Airports registered a YoY increase of 18.3% in passenger traffic in FY2017. Private investments increased to USD 9.3 bn during 12th Five-year plan from USD 5.5 bn during 11th Five year plan. Average air fares fell by about 18% during 2016-17. The airport infrastructure is fast approaching saturation and needs new investment to expand in order to meet the increasing demand. Government needs to focus on developing low cost airports to accommodate low cost carriers, thus maintaining low airfares. India signed open sky agreements with Greece and Japan; and increasing bilateral ties with other countries will facilitate international trade.

### Ports

Both, major and non-major ports witnessed an increase in traffic in 2016-17. Increased demand from sectors like iron ore, Petroleum Oil Lubricants (POL) and containers resulted in higher movement of cargo in 2016-17. The ports have become efficient with average turnaround time decreased from 5.29 days in FY11 to 3.44 in FY17, due to various government initiatives such as improving connectivity and logistics, automating ports and augmenting existing facilities. Government has launched Sagarmala scheme to reduce logistic costs and time. The government has also launched Trade Infrastructure for Export Schemes (TIES) to facilitate smooth movement in exports.

### Power

India is the third largest producer and consumer of electricity in the world with an annual electricity production of 1423 TWh in 2017. India has now become energy independent and a net exporter of energy of about 5,800 million units to Myanmar, Bangladesh and Nepal in 2017. India has witnessed unprecedented growth in the power sector in recent years. Conventional and non-conventional sources of energy have grown by 26% and 40% respectively over the past three years.

# Overview of Indian Infrastructure Sector

The growth in the power sector was supported by numerous reforms brought by the government in rural sector, for instance Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY), where of the 18,452 un-electrified identified villages, over 13,123 villages were electrified by May 2017. In 2017, as per electricity accessibility ranking on a global scale, India ranked 26th as compared to 99th in 2014.

India is expected to be the third biggest solar market in the world in 2017, with 8.8 gigawatt (GW) of capacity addition projected for the year ahead.

## Real Estate

The FY 2016-17 has brought a range of new government schemes and sweeping regulations in the real estate sector. The global capital inflow in FY 2016-17 into the real estate sector stood at \$5.7 bn. India ranks 4th in developing Asia for FDI inflows as per the World Investment Report 2016. The new regulations introduced more transparency and consolidation and thereby making the sector more attractive to Indian as well as Global investors. Real Estate (Regulation and Development) Act, 2016 (RERA), Benami Transaction Prohibition (Amendment) Act, 2016, Amendments in (REITs) Regulations and Goods and Service Tax (GST) and demonetization were the major changes that made an immediate impact in the working of the real estate sector. The residential sales in 2017 decline to almost half of previous year in cities including Gurgaon, Noida, Bengaluru and Mumbai. However, the prices didn't react proportionately with Mumbai, Delhi and Chennai still the most expensive cities to buy homes in FY 2016-17. In 2016, 41.6 million sq ft of office space was absorbed by 7 major metro cities with Bengaluru at 31% share followed by Delhi NCR at 18%. The majority demand was from Technology sector (at 58% share) and Banking Financial Services & Insurance or BFSI Sector (at 12% share).

## Telecom

India is the 2nd largest telecom network in the world after China, with a subscriber whooping base of ~1.2 bn (February 2017). Also ranks 3rd with 391.50 million internet subscribers in 2016. The number of subscribers and internet users have crossed the bn-dollar mark in 2016. The sector is dominated by private companies, with Reliance Jio disrupting the industry by reducing the voice & data prices to its historical low; and also offering free data packs for a specific period. This resulted in Reliance Jio subscribers jumped from 16 million in September 2016 to 108 million in March 2017. In wireless segment, Reliance Jio has the largest (~30%) market share in June 2017. However, the sector has suffered heavily with the average revenue per user (ARPU) down to ₹ 83 in 2017 from a peak of ₹ 123 in 2015. The biggest beneficiaries are the telecom subscribers who are enjoying lowest fares for voice and data. The FDI flow in 2017 has significantly improved to ₹ 55.6 bn in 2017, against ₹ 13.2 bn in 2016 when it was hit by huge spectrum rates and tax evasion cases against some service providers.



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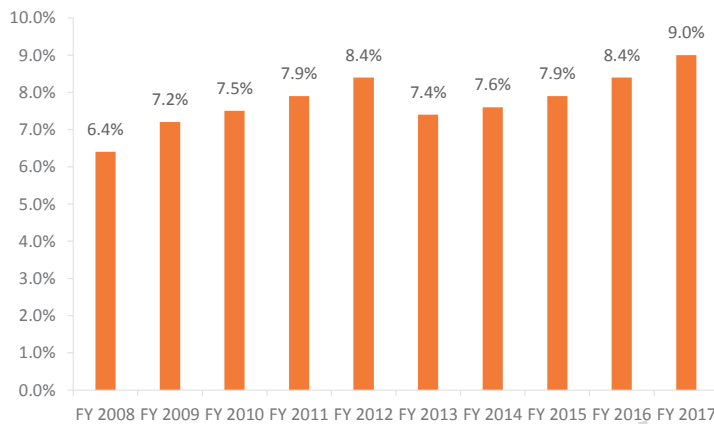
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**CONSTRUCTION**

## The Indian Construction Industry

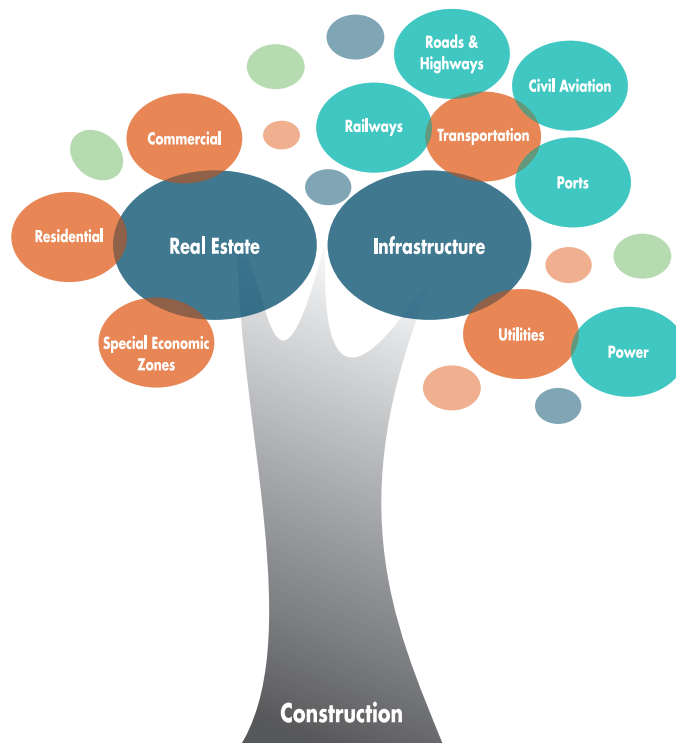
The Indian Construction industry accounts for approximately 9% of the country's GDP and employs around 40 million people. The construction industry has induced effects in majority of the manufacturing sectors of the economy (such as cement, steel, industrial equipment). Thus, it plays a pivotal role in the economic growth of the nation.

Share of construction in India's GDP



Source: Statista

Structurally, the construction sector comprises of the real estate and infrastructure segments, of which the infrastructure holds a major share and is a key driver of the overall growth in the construction sector. The real estate segment comprises of residential buildings, townships, commercial complexes and SEZ/IT parks, while heavy projects conducted on a massive scale involving roads, railways, ports, airports, and highways come under the infrastructure.



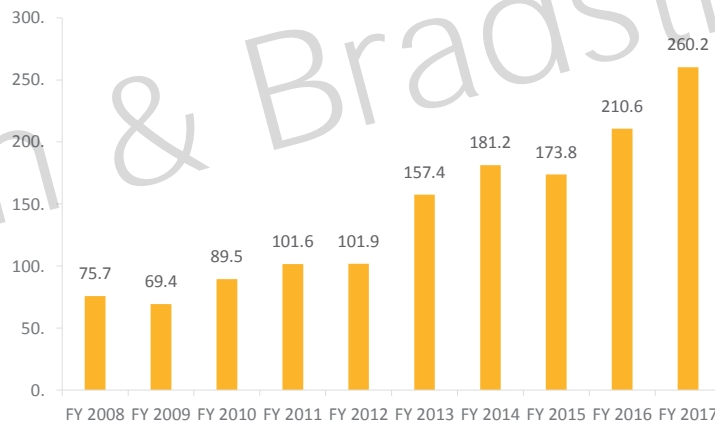
The Indian construction industry grew at an average rate of 3.5% annually from 2012 to 2016. The growth was mainly supported by heavy investments made in the infrastructure and real estate during 12th Five-Year Plan 2012–2017. Construction industry is expected to grow further in the coming years with government launching various projects in the real estate such as 100 smart cities, Housing for all, Pradhan Mantri Gram Sadak Yojana (PMGSY), Make in India, Power for All, and Pradhan Mantri Awas Yojana.

Up to 50% of the demand in construction sector is derived & will come from the Infrastructure sector as there are various upcoming projects planned in the sector as below:

- Increasing the construction of highways to 40 kms per day from 22 kms, and building 59,000 kms of rural roads under Pradhan Mantri Gram Sadak Yojana
- 50 million houses to be built by 2022 under Pradhan Mantri Awas Yojana
- 2,000 kms of coastal roads to be constructed and developed
- 3,500 kms of railway lines to be commissioned

Infrastructure sector is expected to boost the GDP growth by 2% to 3% in 2017-18, according to Honourable Union Minister of Road Transport, Highways and Shipping, Nitin Gadkari.

Value of infrastructure investment in the construction sector in India (in US\$ bn)



Source: Statista

Budget 2017-18 provided a huge boost to the construction sector of India. The 'Affordable Housing' was given infrastructure status in this year's budget. Infrastructure status will facilitate in borrowing funds at cheaper rates which is expected to accelerate the construction activity and boost investments in the housing sector.

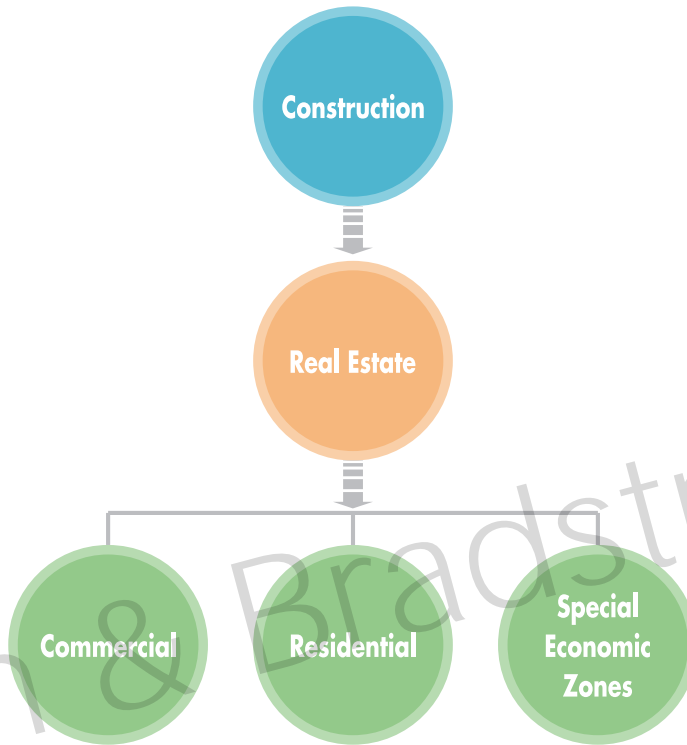
GDP contribution from the construction sector in India increased to an all-time high of ₹ 2,339.19 bn in second quarter of 2017 from ₹ 2,197.52 bn in first quarter of 2017 (a Q-o-Q growth of 6.45%). Gross Value Added (GVA) at constant prices (Base year: 2011-12) from the Construction sector for 2016-17 increased to ₹ 83,960.73 bn from ₹ 8,797.82 bn in 2015-16.

Conclusion:

The construction industry will be looking to attract significant investments from private and international investors as the country focuses on creating a world-class infrastructure.

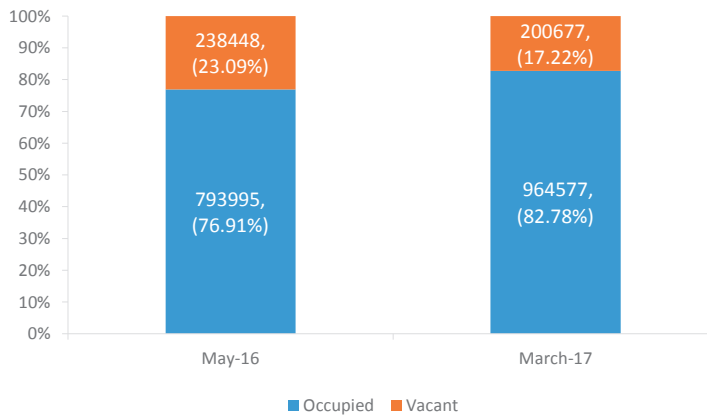
# REAL ESTATE

The real estate sector is divided into following three categories:



Current scenario of houses built under Jawaharlal Nehru National Urban Renewal Mission (JNNURM), Rajiv Awas Yojana (RAY) & Pradhan Mantri Awas Yojana – Urban (PMAY-U)

Status of centrally sponsored housing under JNNURM, RAY and PMAY - U in Urban India



Source: MHUPA

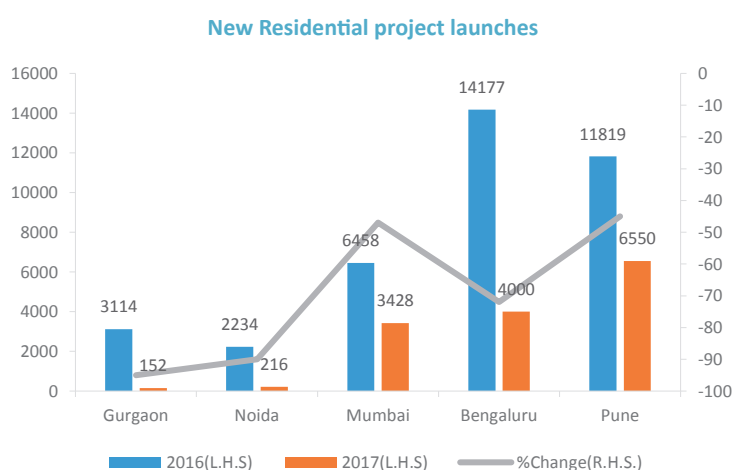
Central schemes or missions have provided flexibility to states in order to meet the objective of providing housing for all. However, there is a need to monitor its quality in terms of services provided, accessibility, and links of the dwelling units to the broader labour markets in the urban region. There is a need to study state-wise reasons for government sponsored vacant housing projects. The reasons may differ across states and may require state specific interventions. Without proper scrutiny of these aspects, the units will be unviable particularly for low-income households.

PARTICULARS	DETAILS
Houses to be built under PMAY - U until 2022	20,000,000
Houses built until 31st July, 2017	157,106
Remaining houses to be built by 2022	19,842,894
Months Remaining	65
Houses to be built per month for PMAY - U	305,275

PARTICULARS	DETAILS
Houses to be built under PMAY (Rural) until 2022	30,000,000
Houses built until March 2017	197,067
Estimated number of houses pending for PMAY (Rural)	29,802,993
Houses to be built per month for PMAY (Rural)	458,507
Total houses to be built per month under PMAY to complete the target 50 million houses by 2022	763,782

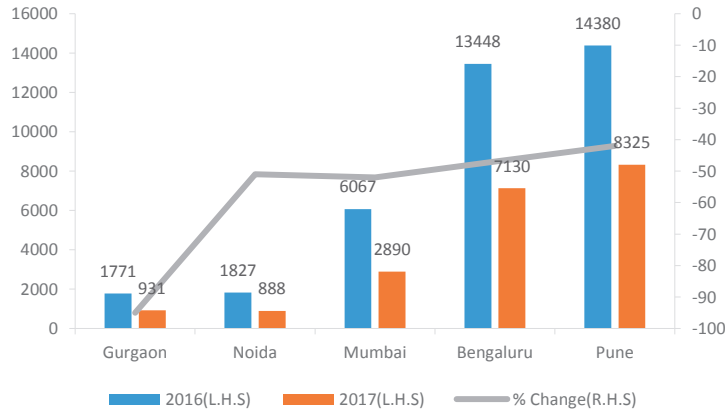
## Residential Real Estate Sector

Lack of new residential projects due to various regulatory changes, and postponing purchases by home-buyers primarily due to GST have led to residential sales in 2017 decline to almost half of previous year in cities including Gurgaon, Noida, Bengaluru and Mumbai; with Noida at -51% and Mumbai at -52%. Purchase of unsold inventory in the secondary markets by investors at attractive rates can also be attributed to low sales in the primary markets.



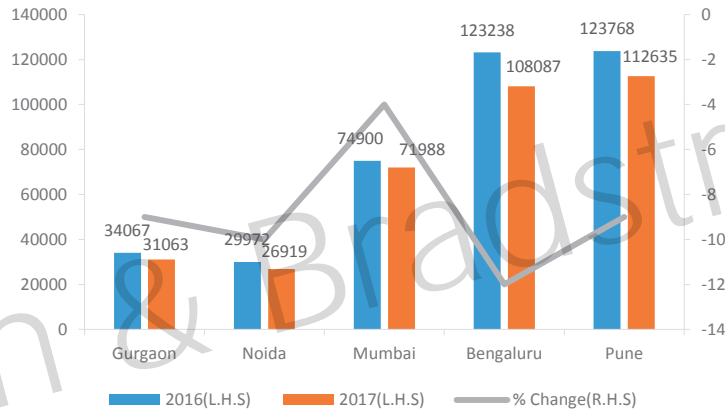
Source: PropEquity

### Total absorption of Residential Projects



Source: PropEquity

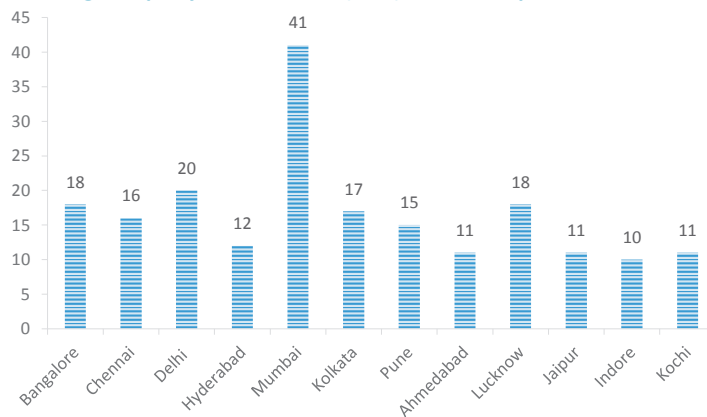
### Unsold Inventory of Residential houses



Source: PropEquity

Mumbai, Delhi and Chennai have been the most expensive cities to buy homes in India in FY 2016-17. Rising inventory levels also indicate that the current supply of homes is unaffordable to the majority and hence they prefer renting over buying. Hyderabad and Indore emerge as the most affordable cities with the highest rent to buy ratio.

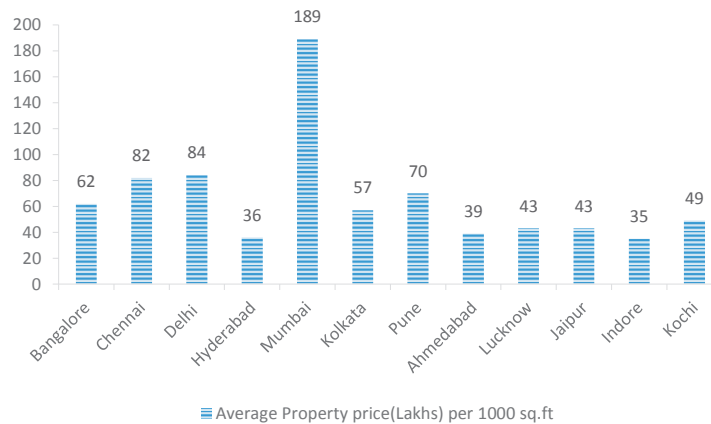
### Average Property Rental Values ('000) for 1,000 sq. ft in FY 2016-17



Source: ArthaYantra

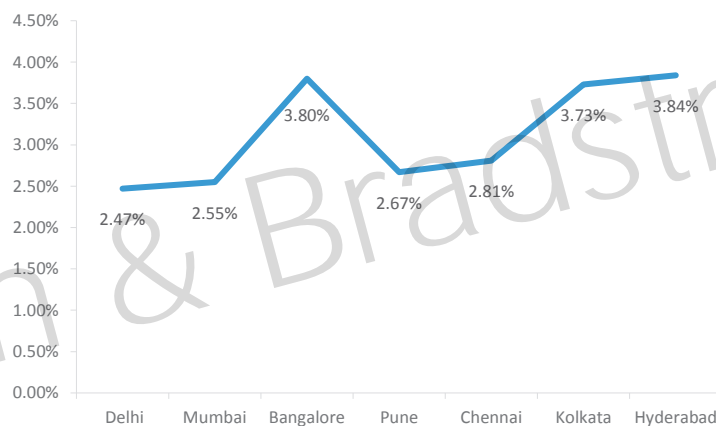


**Average Property price (Lakhs) per 1,000 sq.ft in FY 2016-17**



Source: ArthaYantra

**Average Rental Yield in FY 2016-17**

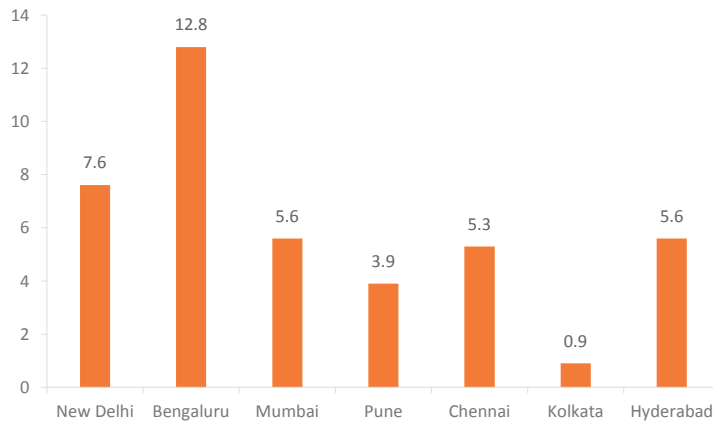


Source: Arthayantra

## Commercial Sector

The real estate sector witnessed a huge demand from Technology Sector, BFSI and Telecom Sector leading to a high occupancy rates in the major cities. There has also been a rising demand of office space from MNCs in Tier-I & Tier-II cities. Business activities are also witnessing a shift from the Central Business Districts (CBD) to Special Business Districts (SBD); and also a gradual shift from Tier-I to Tier-II cities within India.

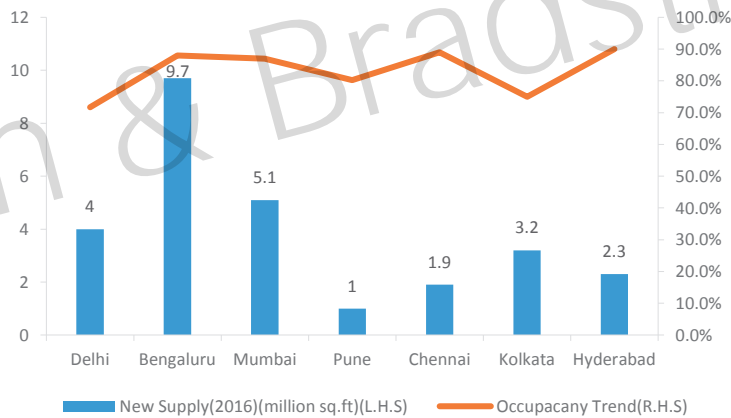
Gross Absorption of office space areas in 2016 (mn Sq Ft)



Source: PropEquity

In 2016, 41.6 mn sq ft of office space was absorbed by 7 major metro cities. Bengaluru topped the charts with a 31% share followed by Delhi NCR at 18%. The majority contributors include Technology sector (58%) and Banking Financial Services & Insurance or BFSI Sector (12%).

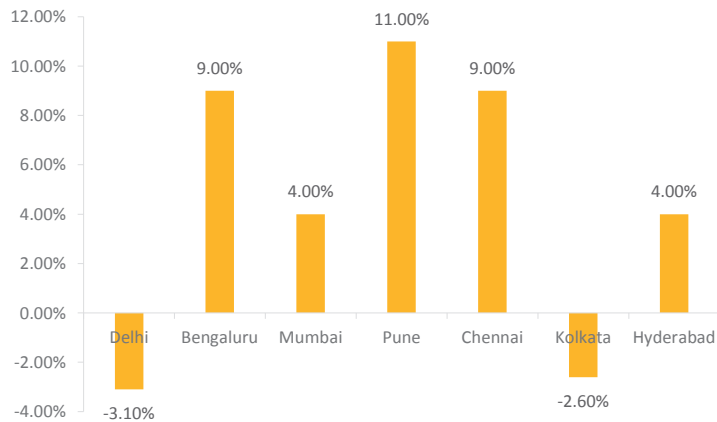
Supply and Occupancy Trend of Office Spaces for FY 2016-17



Source: Colliers

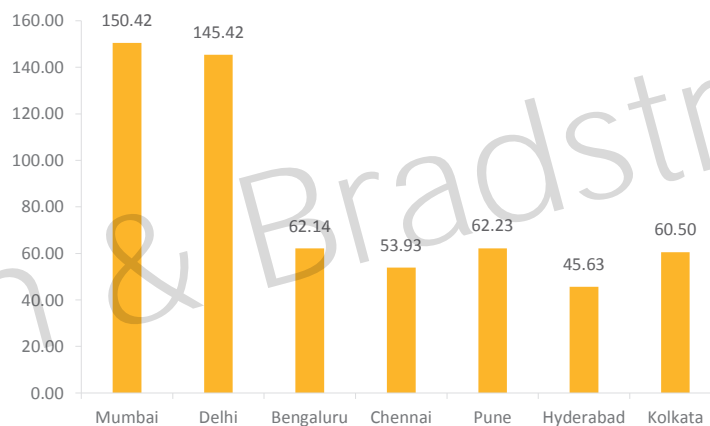
Mumbai recorded the highest average rent in 2016 with Delhi faring closely at ₹ 145.2/sq.ft. Retail sector accounts for a minuscule portion of the real Estate market in India and the operating model of the retail sector has shifted from Sales to Lease and Maintenance. Mumbai, Delhi and Bengaluru accounted for a majority of the total office space demand in 2017.

Average Rental Growth FY 2016-17



Source: Colliers

Average Monthly Rent for 2016 (₹/sq ft)

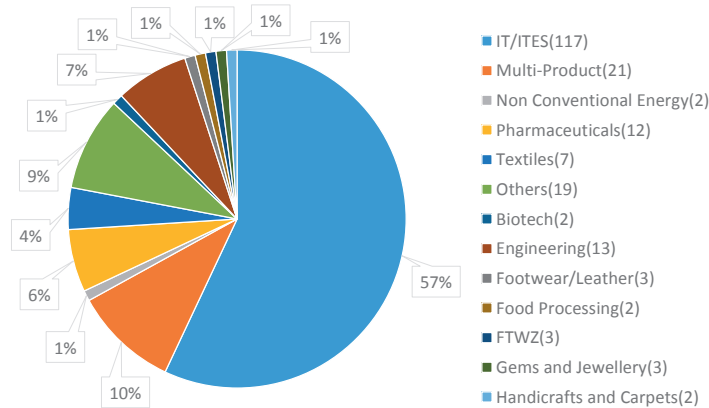


Source: KPMG

### Special Economic Zone (SEZ):

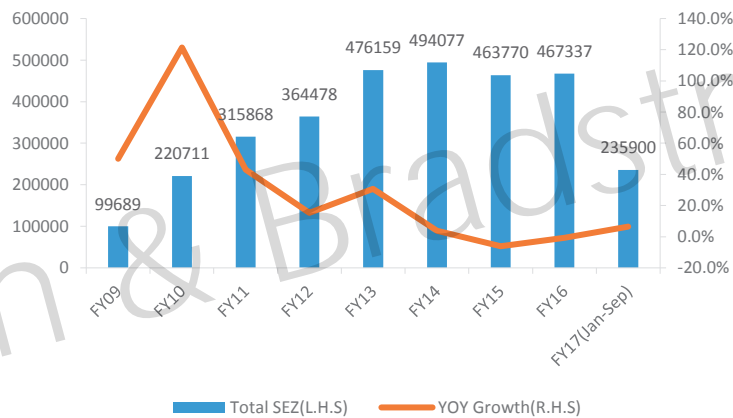
The major SEZ sector includes IT/ITES, Hardware, Textiles and Apparel, Pharma and Chemicals, Biotech, Engineering and Multi-products together which account for 82.22% of the SEZ formal approvals granted. SEZ provides employment to over 16,88,000 people and the total cumulative investment into SEZ is ₹ 4,06,690 crore. Gross leasing volume stood at 0.9 million sq ft (i.e. 83,600 sq mtr.) in July 2017.

Sector-wise Distribution of SEZ in India as on 30th Sep, 2016.



Source: Department of Commerce

Exports (in bn) from SEZs during 2009-17



Source: Department of Commerce

## Government Schemes

### Real Estate Investment Trust (REIT):

A REIT, is a company that owns or finances income-producing real estate. Modeled after mutual funds, REITs provide investors all types of regular income streams, diversification and long-term capital appreciation. All REITs are listed on the stock exchanges, and they are built like trusts. Consequently, REIT assets will be held with independent trustees for unit holders/investors.

A REIT's objective, is to provide the investors with dividends that are generated from the capital gains accruing from the sale of commercial assets. The trust distributes 90% of the income among its investors via dividends.

### Real Estate (Regulation and Development) Act RERA:

RERA bill was introduced in 2013 and has received an approval in March 2016. The primary objective is to protect the interest of the homebuyers and ensure legitimate use of buyers' money and timely delivery of projects.

Real estate being under the purview of the state government, the implementation of RERA will be State governments' responsibility. Maharashtra government has approved RERA. The deadline for online submission of realty projects under RERA ended on July 31st, 2017.

RERA also protects builders by levying penalty for allottees for non-payment of dues on time. The builder can approach the regulator in case of any dispute with the buyer.

### **Benami Property Act:**

The Benami Transactions (Prohibition) Amendment Bill, 2015 was introduced in Lok Sabha on May 13, 2015, to amend the Benami Transactions Act, 1988. The Act prohibits benami transactions and provides for confiscating benami properties.

The Act defines a benami transaction as a transaction where a property is held by or transferred to a person, but has been provided for or paid by another person. The Bill amends this definition to add other transactions which qualify as benami, such as property transactions where:

- (i) The transaction is made in a fictitious name,
- (ii) The owner is not aware or denies knowledge of the ownership of the property, or
- (iii) The person providing the consideration for the property is not traceable.

According to the new law, people caught with 'benami' properties could serve up to seven years of rigorous imprisonment and pay a significant fine. Additionally, the properties will be confiscated.

### **Pradhan Mantri Awas Yojna (PMAY):**

PMAY was launched in June 2015. Government envisages building affordable pucca houses with water facility, sanitation and electricity supply round-the-clock. The scheme originally was meant to cover people in the Economically Weaker Sections (EWS) (annual income not exceeding ₹ 3 lakh) and Low Income Group (LIG) (annual income not exceeding ₹ 6 lakh), however it now covers the Middle Income Group (MIG) (annual income not exceeding ₹ 7.5 lakh) as well.

The four key points of PMAY are:

- It aims to bring about a change in slum areas by building homes for slum dwellers in collaboration with private developers
- It plans to give a credit-linked subsidy to LIG and MIG sections on loans taken for new construction or renovation of existing homes
- The Government will chip in with financial assistance for affordable housing projects done in partnership with States/ Union Territories for the EWS
- It will extend direct financial assistance of ₹ 1.5 lakh to EWS.

### **Jawaharlal Nehru National Urban Renewal Mission (JNNURM):**

The JNNURM scheme, launched in 2005 by Ministry of Housing and Urban Affairs (MoHUPA), focuses on integrated development of slums through projects for providing shelter and other basic services to the poor in 65 cities under the Basic Services for Urban Poor (BSUP) and in other cities and towns under Integrated Housing and Slum Development Programme (IHSDP).

All India status of JNNURM under BSUP and IHSDP (As on October 3rd, 2017):

Particulars	Basic Services for Urban Poor(BSUP)	Integrated Housing and Slum Development Programme (IHSDP)	Total
States	32	33	35
Cities/Towns	62	877	939
Projects Approved	477	1030	1507
Projects Completed	107	159	266
Projects Ongoing	370	871	1241
Project Cost Approved (in ₹ bn)	317.5	127.8	445.3
Dwelling Units Approved	788953	451951	1240904
Dwelling Units Completed	696599	390460	1087059

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# INDIAN RAILWAYS

Indian Railways is the world's largest government-owned railway and the third largest after the USA and China in terms of rail network with a length of over 66,600 route kilometer (km). It is the fourth largest freight carrier and largest passenger carrier in the world.

The passenger traffic for Railways was 8,219.38 mn in 2016-17 compared to 8,151.22 mn achieved in 2015-16. The freight traffic was 1,106.58 MT in 2016-17 compared to 1,104.48 MT in 2015-16. Despite an annual increase in both, passenger and freight traffic, Railways missed its revenue targets for 2016-17. In 2016-17, revenue earnings from passenger segment was ₹ 462.8 bn against revised estimate of ₹ 480 bn. Freight revenue was ₹ 1,043. 1 bn against the revised estimate of ₹ 1,089 bn. Overall, Railways earned ₹ 1,505.9 bn against a revised target of ₹ 1,569 bn, a 4.02% decline. Non-fare earnings increased to ₹ 101.8 bn compared to ₹ 59.3 bn in the previous year.

## Indian Railways key statistics:

Parameters	As of 31 March 2016	As of 31 March 2015	% Change
<b>Route Kms</b>	66,687	66,030	1.0%
• Broad Gauge (km)	60,510	58,825	2.9%
• Metre Gauge (km)	3,880	4,908	-20.9%
• Narrow Gauge (km)	2,297	2,297	0%
<b>Running Track Kms</b>	92,081	90,803	1.4%
<b>Electrified Route Kms</b>	23,555	22,224	6.0%
<b>Rolling Stock</b>			
• Wagons	251,256	245,350	2.4%
• Locomotives	11,122	10,773	3.2%
• Coaches	70,241	63,045	11.4%

Source: Indian Railways

## Indian Railways Vision and Plans 2017-2019

Indian Railways launched Indian Railways Vision and Plans 2017-19 with an objective of being the engine of India's economic growth by being safe, financially viable, environment-friendly and caring for its customers and employees.

The key highlights of the Plan are as follows:

- Zero Fatality
- Upgrading Infrastructure
- Preferred Freight Carrier
- Passenger Experience
- Cost Focus
- Organization Culture
- Leveraging Technology
- Sustainability

Under this plan, the Indian Railways aims to set up 2 lakh screens across multiple stations for displaying information and advertisements. In order to increase non-fare revenues, Railways will take following steps to enhance advertising capabilities:

- Rail Display Network
- Out-of-Home Advertising
- Train and Station Branding
- Monetization of Soft Assets

Apart from this, all stations will be lit by new LED lighting in the next 3 years while 32 stations and 10 depots have been selected for installing water recycling plants.

### Railway Budget 2017-18

The Railway Budget for the year 2017-18 was presented along with the Union Budget 2017-18. The Indian Railways was allocated relatively the highest and historically also highest budget of ₹ 1,310 bn. This includes ₹ 550. bn provided by the Government of India. The key highlights from the budget are as follows:

- Railway lines of 3,500 kms to be commissioned in 2017-18, with at least 25 stations expected to be redeveloped
- Service charge on rail tickets booked through IRCTC application to be withdrawn
- Rashtriya Rail Sanraksha Kosh, a rail safety fund of ₹ 1,000 bn for a period of five years will be created for passenger safety
- Lifts and escalators will be setup at 500 railway stations to make it suitable for differently-abled
- Measures to be taken to promote tourism and pilgrimage by launching dedicated trains
- All coaches of the trains to have bio-toilets by 2019
- In next 3 years, throughput is expected to increase by 10% through modernization and improvement of selected corridors
- Unmanned railway level crossings on broad gauge lines to be eliminated by 2020
- A proposal to feed 7,000 stations with solar power in the medium term
- 'Clean My Coach', an SMS based service is implemented
- 'Coach Mitra', a common interface to register all coach related complaints to be launched
- In order to facilitate greater private participation and investment in construction and operation, a new Metro Rail Act will be enacted by rationalizing the existing laws

### Key developments

- Commissioned 3,500 kms of broad gauge lines compared to 2,800 kms in the previous year
- 1,354 railway over-bridges/ under-bridges constructed in 2016-17 compared to 1,024 in 2015-16
- 1,503 unmanned level crossings eliminated in 2016-17 compared to 1,253 eliminated in 2015-16
- Introduced India's fastest train Gatimaan Express between Delhi and Agra in April 2016. The train operates at a maximum speed of 160 kmph
- Sanctioned ₹ 170 bn to develop integrated semi high speed corridors (160-200 kmph) between Mumbai-Delhi and Delhi-Kolkata



- First Antyodaya Express between Ernakulam and Howrah started in February this year. Antyodaya Express is a fully unreserved, superfast train over long distance for passengers on dense routes
- Started the fourth Humsafar Express between Srirangapatna and Tiruchchilapalli in February 2017. Humsafar Express is fully air-conditioned third AC service with an option for meals
- In February 2017, the government announced that IRCTC, IRCON and IRFC will be listed on stock exchanges
- In September 2017, the foundation stone for India's first bullet train was laid. The train will run between Mumbai and Ahmedabad covering 12 stations in two states at a maximum speed of 350 km/hour. The Japan International Cooperation Agency (JICA) will provide a 0.1% interest loan of ₹ 880 bn to fund the ₹ 1,100 bn project. The bullet train is expected to reduce the travelling time between the cities to 2-3 hours from 7-8 hours. The government expects the project to create around 15 lakh new jobs in India. The 508 kms long Mumbai to Ahmedabad project is expected to complete by August 2022.

## Government's focus on cost reduction and digital transformation

### Cost savings and alternate sources of revenue:

Indian Railway's operating ratio for 2016-17 is 94.9% which is worst since 98% in 2000-01. Union Railway Ministry initiated "Mission 41k" with an aim to save ₹ 41,000 bn on the IR's expenditure on energy consumption over the next 10 years through energy efficiency and procurement optimization. The target of this mission will be in partly achieved by moving 90 percent of traffic to electric traction over diesel from 50% at present. The Railways hopes to save 25% on its energy expenses by procuring more electricity at cheaper rates through open market instead of DISCOMs. Apart from reducing costs, there are also plans to increase revenues from alternate sources. Indian Railways generated ₹ 10,181 bn in non-fare revenue in 2016-17, about 80% increase from 2015-16. It aims to generate revenues through both external and internal advertisements on trains.

### Digital transformation:

Indian Railways is fully committed to digital transformation of all its processes. In 2016-17, 68% of passenger business and 99% of freight business transactions were cashless. It provided high speed Wi-Fi at more than 130 stations with a target of reaching 400 before the year end. 100 stations were Wi-Fi-enabled by the end of 2016. It has set up Rail Wire Saathi, internet enabled kiosks at more than 5,000 stations. The Railwire Saathi is a Wi-Fi entrepreneurship model providing employment opportunities to youths where they can be trained to set up a Wi-Fi hotspot for providing online services. It has a dual aim of providing connectivity as well as job opportunities. It will provide services like automated form filling, mobile and DTH recharges. It will help in disseminating information about various government schemes like Pradhan Mantri Ujjwal Yojana, Pradhan Mantri Atal Pension Yojna and Pradhan Mantri Jeevan Beema Yojna among others. The application is available for download on Google Play Store. Indian Railways is planning to launch Aadhar card based ticketing and e-ticketing to promote paperless and cashless ticketing system.

## Freight and Passenger Business Action Plan 2017-18

Salient features of key freight sector initiatives:

### Roll-on Roll-off (RO-RO)-

RO-RO is a new multimodal transport mix delivery model aimed at reducing the traffic in city by loading commercial vehicles onto railway flat wagons at terminals outside the city and carry them across the city where it will be unloaded. The concept is a part of Railway's green transportation initiative aimed at reducing the air pollution in the city.

### Long term tariff contracts/Agreements-

This facility will be extended to key freight customers using pre-determined pricing scheme in which customers are required to sign a contract of at least 3 years and not more than 5 years for which they will be providing minimum million tonne of traffic per annum. Traffic discount would be granted to customers providing 5 million tonnes of traffic. It is likely to benefit key customers such as cement, fertilizers, steel sector etc.

### Double Stack Dwarf Containers-

Double stack dwarf containers are designed for maximum throughput with increased loading capacity. Dwarf containers are smaller in size and will enable double stack movement improving loading capacity by 16%. The dwarf containers are expected to move additional 2 mn tonnes of cargo every year which is around 22% of the 9 mn tonne cargo carried in 2016-17. An action plan will be developed to increase the freight basket and recapture the traffic through containerization. Dwarf containers will help in attracting business from house-hold appliances, textile products, and solid and liquid petrochemicals sectors.

### Key initiatives for Passenger Segment:

- Aadhar based ticketing and e-ticketing-

Indian Railways aims the transformation of ticketing system by going cashless and paperless. It plans to install around 6,000 PoS machines and 1,000 ticket vending machines in 2017-18.

### Fulfilling demand and promoting tourism-

Indian Railways looks to fulfill the surge in demand by starting new train services. 7 new Humsafar, 7 new Antyodaya and 3 new Tejas Express trains are expected to start in 2017-18. A new policy for promoting tourism will be implemented by developing Hill Railways through partnerships.

### Providing comfortable journey and enjoyable experience-

It aims to providing customers with comfortable and enjoyable experience by induction of new LHB rakes in about 2,300 coaches and adding comfort features, improvement in catering and digitization of entire station transactions.

### Conclusion

Despite taking initiatives to increase traffic and revenues and finding alternative sources of revenues, Indian Railways needs to cut down on its operational cost. Its operational ratio reached a record high of 109% between April and December 2016. The revised estimate for operating ratio in 2016-17 was 94.9% as compared to 92% in 2015-16. The infrastructure is overstretched with more than 60% of routes being more than 100% utilized. It remains to be seen whether the government manages to improve the overstretched infrastructure and bring the operating costs under control.

The digitization initiatives & various cost reduction initiatives (including Mission 41K) should help reduce the overall costs in the medium-to-long term.

# ROADS & HIGHWAYS

In FY 2017, India had the second largest road network in the world after the USA, with a total road length of about 5.47 million kilometers (kms). Road network is split into three categories:

1. National Highways – 103,933 kms
2. State Highways -161,487 kms
3. District and Rural Roads – 5,207,044 kms

Source: MoRTH

Roadways play a huge role in the economic development as around 64.5% of goods are transported through roads and nearly 90% of passenger traffic is by the roads. Highways, with a length of 103,933 kms constitute merely 2% of the roadways network, however carry about 40% of the traffic. In order to achieve the progress, Government of India has set a target of building 15,000 kms (~41 kms/day) of roads in 2016-17 however could only manage to build 8,200 kms (~22 kms/day). It has also set a target of awarding 25,000 kms of road projects in 2016-17; and of which 15,000 kms to be awarded by National Highways of India (NHAI) and 10,000 kms to be awarded by Ministry of Road Transport and Highway (MoRTH).

The average construction in the first two months of current fiscal is 26.6 km/day compared to 19.26 km/day for the same period last fiscal year, but still short of the target of 41 km/day.

Projects for Roads and Highways are implemented under following models:

1. Build-Operate-Transfer (BOT) - Toll
2. Build-Operate-Transfer (BOT) - Annuity
3. Engineering, Procurement and Construction (EPC)
4. Hybrid Annuity Model (HAM)

**BOT:** Under the BOT model, private developers invest their own money for constructing roads, and recover their investments through toll collection or by receipt of annuity from the government.

**EPC:** The EPC model involves the construction of roads through execution by the private developer and funding by the government.

**HAM:** The HAM was devised by the NDA government in April 2015, which involved the sharing of project costs with the private sector in a ratio of 40:60.

The government has focused on shifting the mode of project implementation away from the BOT model towards the EPC and HAM models, and it seems to have made a positive impact in terms of improving the pace of road construction activity and the ability to award projects. Further, the Government has also not ignored the Private Public Partnership model which largely relies on the BOT mode of project implementation.

## Roads and Highway budget for 2017-18

Union Budget 2017-18 allocated ₹ 2,413.9 bn to the transportation sector as a whole. Key highlights of the Roads and Highways in the Union Budget are as follows:

- In the road sector, budget allocation for highways for 2017-18 increased to ₹ 649 bn from ₹ 579.7 bn in 2016-17
- 2,000 kms of coastal connectivity roads have been identified for construction and development
- Total length of roads, including those under Pradhan Mantri Gram Sadak Yojana (PMGSY), built in three years from 2014-15 till the current year at 140,000 kms is significantly higher than previous three years

## Emphasis on Road Safety

Total of 480,652 road accidents took place in India in 2016, up by 4.1% from 2015, resulting in the loss of 150,785 lives, up by 3.2% from 2015. A National Road Safety Policy has been approved for creating policies to promote awareness, establish safety, improve infrastructure and enforce strict safety laws. A National Road Safety Council has been constituted to take major policy decisions in road safety matter. MoRTH has put an emphasis on correcting the black spots on National highways to improve safety measures. Ministry has asked the states to send proposals for road safety measures and allocated 10% of the Central Road Fund (CRF) to undertake safety measures. For road safety measures, ₹ 6 bn were earmarked in 2016-17; and of the total of ₹ 11 bn available for 2015-16 and 2016-17. A “4 E’s strategy” has been developed to tackle the road safety program where in the 4 E’s stand for Education, Engineering, Enforcement and Emergency Care.

## Road projects under implementation:

### National Highway Development Program (NHDP)

NHDP is being implemented in seven phases by NHAI. It is the largest highway development program in the country and is currently responsible for upgrading more than 49,000 kms of road nation-wide.

#### Key projects under NHDP are:

Project description	Phase	Total length in kms	% Completion
Development of Golden Quadrilateral, North South and East West (NSEW) corridor, port connectivity and other National Highways.	GQ & Port Connectivity	6,281	99.2
Development of North South and East West (NS-EW) corridor and other National Highways.	Phase 1&2	7,142	92
Development of 4-lane National Highways	Phase 3	11,809	64.5
Upgrading single lane to 2-lane	Phase 4	13,203	30.7
Upgrading 4-lane highways to 6-lane and port connectivity	Phase 5	6,500	39.4
Development of expressway	Phase 6	1,000	-
Development of ring roads, bypasses and flyovers	Phase 7	700	3.1

Source: NHAI; as on 31 May 2017

### Pradhan Mantri Gram Sadak Yojana (PMGSY)

PMGSY was launched by the government in 2000 to provide all weather road connectivity in rural areas. PMGSY had set a target of constructing 49,000 kms of road during 2016-17 which was on course to be achieved. For 2017-18, government has set a target of building 59,000 kms of rural roads. A budget of ₹ 190 bn was allocated to PMGSY by the government which would rise to ₹ 270 bn with contribution from state governments. Under PMGSY, 5,16,650.359 kms of road length has been constructed/ upgraded since inception against the target of 5,31,469 kms.

### Bharatmala

Public Investment Board (PIB) approved government's ₹ 10 trillion for Bharatmala project. Under this project, 51,000 kms of road length comprising of expressways, coastal roads and economic corridors will be developed in phases; and 29,000 kms at a cost of ₹ 5.5 trillion will be developed in the first phase. This project will replace NHDP. Most of the projects under Bharatmala will be implemented using EPC model. It aims at developing road links in border areas and providing last mile connectivity at major border points and trade routes connecting neighbouring countries.

It will improve 17,200 kms of roads connecting to coastal and border areas. Construction, rehabilitation and widening of 1,500 bridges and 200 railway over-bridges/ under-bridges will be undertaken; and 5,300 kms of new roads will be constructed connecting west to east border. Bharatmala will connect 123 districts of India with National Highways. It is expected to create a network of economic corridors including Mumbai-Cochin-Kanyakumari, Bengaluru-Mangalore, Hyderabad-Panaji and Sambalpur-Ranchi. This will immensely benefit the freight and logistics industry and reduce the logistic costs.

The government has focused on shifting the mode of project implementation away from the BOT model towards the EPC and HAM models, and it seems to have made a positive impact in terms of improving the pace of road construction activity and the ability to award projects. Further, the Government has also not ignored the Private Public Partnership model which largely relies on the BOT mode of project implementation.

### Road Connectivity Project for Left Wing Extremism (LWE) Affected Areas

This project will improve the rural road connectivity in the worst LWE affected districts critical from security and communication point of view. The project will undertake construction and upgrades of 5,411 km road and 126 bridges at an estimated cost of ₹ 117.2 bn in the above mentioned districts. The pattern for fund sharing of LWE road project will be same as that of PMGSY, except for eight North Eastern and three Himalayan states for which it is 90:10. Ministry of Rural Development by Ministry of Finance will allocate ₹ 70.3 bn for this project during the period of implementation from 2016-17 to 2019-20.

### Special Accelerated Road Development Programme for North-East (SARDP-NE)

It is aimed at improving road connectivity between the remote areas in the North East and the state capitals and district headquarters. It will facilitate connectivity of 88 district headquarters to the nearest National Highways. Project will be completed under 3 phases:

- Phase A - Improvement of 3,014 kms of national highways and 1,085 kms of state roads
- Phase B - Development of 2,392 kms of double-lane of National Highways and improvement of 1,331 kms of state roads.
- "Arunachal Pradesh Package of Roads and Highways" - Development of 2,319 kms of roads.

## The Road Ahead

Development of Roads and Highways is of utmost priority for the government as it handles a major chunk of passenger and goods traffic in the country. Despite not meeting the targets for road construction in 2016-17, they have set an ambitious target for 2017-18. After achieving record 22 kms per day of highway construction in 2016-17, they have set a target of 40 kms per day. The government plans to double the length of national highways to 200,000 kms for which they plan to build 25,000 kms in 2017-18 and 30,000 kms in 2018-19.

Road safety is another priority as MoRTH has put emphasis on reducing the number of road accidents and casualties by 50% by 2020.

If the government is able to increase the pace of construction and fulfill the targets, India would be making a progress in its vision of developing one of the best road infrastructures in the world.

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# AVIATION

India became the third largest aviation market in the world in 2016-17, after the USA and China. International Airport Transport Association (AITA) expects India to be the third largest market in civil aviation by 2020. It also remains the second fastest growing aviation market after China. India has 464 airports and airstrips (airstrips are small landing field having a single runway), of which 125 are managed by Airports Authority of India (AAI). Indian Airports registered a passenger traffic of 264.97 mn in FY17 up by about 18.3% from 223.96 mn in FY16. Domestic passenger traffic increased by about 21.5% from 169.3 mn in FY16 to 205.68 mn in FY17. International passenger traffic increased by about 8.5% from 54.66 mn in FY16 to 59.29 mn in FY17.

Total freight traffic increased at a rate of ~10.1% from 2,704,580 tonnes in FY2016 to 2,978,240 tonnes in FY17. International freight traffic comprised of ~62% of total freight traffic in FY17, up by 11.9% from 1,657,700 tonnes in FY16 to 1,855,060 tonnes in FY17. Domestic freight traffic increased by about 7.4% from 1,046,880 tonnes in FY16 to 1,123,180 tonnes in FY17.

According to civil aviation ministry, average air fares fell by 18% during 2016-17 and the number of scheduled domestic flights increased at a CAGR of 8.2% to 8.2 lakhs in 2016 from 7 lakhs in 2014.

## Biggest Airports in India by traffic volume

City	Airports	2017 Passenger Traffic (million)	% Market share
Delhi	Indira Gandhi International Airport	57.7	21.8%
Mumbai	Chhatrapati Shivaji International Airport	45.2	17.1%
Bengaluru	Kempegowda International Airport	22.0	8.3%
Chennai	Chennai International Airport	16.7	6.3%
Hyderabad	Rajiv Gandhi International Airport	15.2	5.7%
Kolkata	Netaji Subhas Chandra Bose International Airport	14.4	5.4%

Source: AAI

## Growing Investments

### Rise of private sector participation

Airports Authority of India was the largest player involved in development and maintenance of the airports in India till 2013. However, the private sector investment has been on the rise since then. During the 12th Five Year Plan (2012-17) the total investment of USD 12.1 bn was planned, of which USD 9.3 bn was private investments compared to USD 5.5 bn during the previous plan. Some of the key projects by the private players include:

- GMR was involved in the development of Hyderabad International Airport
- GVK participated in Modernising the Mumbai International Airport
- Siemens, L&T and Unique was involved in developing Bengaluru International Airport
- Maytas developed Simoga and Gulbarga airports in Karnataka

## FDI Allocation

- Government has allowed 100% FDI under automatic route for Greenfield projects and 74% for Brownfield projects
- 100% FDI allowed under automatic route in regional air transport service and domestic scheduled passenger airline but FDI beyond 49% requires government approval

## Budget 2017-18

The budget for Aviation sector was centered on Air India's bailout package and improvement of safety measures as International Civil Aviation Organization (ICAO) is planning to audit India's safety measures by the end of 2017. Salient features of the budget are as follows:

- The Civil Aviation Ministry received ₹ 51.7 bn in budgetary allocation, a 22% increase from the previous fiscal
- Of the total allocation, Air India will receive ₹ 18 bn as a part of bailout package announced in 2012. In addition, the airlines will also receive ₹ 5.1 bn for the investment in public enterprises
- AAI has been allocated ₹ 25.4 bn besides ₹ 1 bn from the budget allocated in the budget
- Funds for DGCA (Directorate General of Civil Aviation) increased significantly to ₹ 2.3 bn in 2017-18 compared to ₹ 0.3 bn in 2016-17
- Bureau of Civil Aviation Security (BCAS) has been allocated ₹ 2.1 bn in the budget

## Regional Connectivity Scheme (RCS) – UDAN

RCS is aimed at improving connectivity and providing affordable flights to the flyers. The scheme will focus on 125 new routes and connect 45 unserved and underserved airports through five airlines. Details of the projects are as follows:

- AAI plans to connect 22 airports in the first phase which includes three in Assam, one in Andaman Nicobar, two each to be connected in Punjab, Rajasthan, Gujarat and Uttar Pradesh
- RCS will be applicable on route length between 200 and 800 kms
- Plans are to connect these airports to key airports through flights at a cost of ₹ 2,500/hour
- AAI will invest ₹ 175 bn in airport infrastructure till 2019-2020. Central government will provide concessions like 2% excise on Value Added Tax (VAT) and 10% on service tax and liberal code sharing for regional connectivity scheme airports.
- A Regional Connectivity Fund will be formed and certain flights will be levied to fund the scheme and states are expected to contribute 20% to the fund

## Key Developments

- Increased traffic rights under bilateral agreements with other countries. This will help foreign airlines to increase the seats on routes to India which will facilitate foreign airlines' expansion in India
- India signed first open skies agreement with Greece in September 2016. This will allow Indian carriers to operate unlimited flights to any destination in Greece, however, carriers from Greece will be allowed to connect only six key cities in the country which are Delhi, Mumbai, Bengaluru, Kolkata, Chennai and Hyderabad.



- In April 2017, India and Spain signed MoU for cooperation in civil aviation industry to facilitate trade, investment and cultural exchanges between the countries
- In April 2017, Brussel Airlines launched its first flight to Asia, Brussels to Mumbai flight, as a part of the group's strategy to expand its business in India.
- In September 2017, India signed an open sky agreement with Japan which will allow their airlines to operate unlimited flights between the two countries

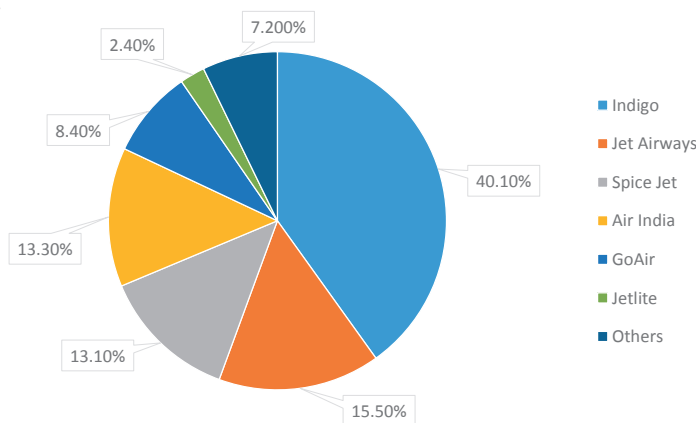
## Need for expansion

Indian airports registered a 17% increase in passenger traffic in FY2017. Airlines including IndiGo, SpiceJet and GoAir have about 880 aircrafts in order to increase the share in the growing market. However, the airport infrastructure has reached the saturation limit. According to estimates from Centre for Aviation (CAPA), most of India's largest airports will exceed their capacity within a decade with Mumbai and Chennai supposedly approaching saturation. Government aims to start 50 non-operational airports by 2020 and has given approval for 18 Greenfield airports. According to Minister of State for Civil Aviation Jayant Sinha, India needs to triple its capacity in the next 15 years which would cost up to ₹ 3 trillion.

## The road ahead

IATA expects India to be the third largest market in 2025 with 278 mn passengers. This would be driven by airport expansion, low cost carriers, increased private investments, FDI in domestic airlines and improved regional connectivity. Airlines being the fastest mode of transport, facilitates faster trade and travel. However, it is also the costliest mode of transport to date. India has a couple of low cost carriers but there is a need for low cost airports too, to make the travel affordable and the business sustainable. It needs investments to develop/maintain the infrastructure to keep up the pace with the growing demand.

Major players in Indian Airline Industry (Market size: ~265 million passengers in FY2017)



Source: DGCA, July 2017



इंडिया इन्फ्रास्ट्रक्चर फाइनेंस कम्पनी लिमिटेड  
(भारत सरकार का उद्यम)

India Infrastructure Finance Company Limited  
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- Direct Finance
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- Refinance
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India Infrastructure Finance Company Ltd. (IIFCL), established in 2006 as a wholly-owned Government of India (GoI) company, under its mandate has been playing an active role in providing long term financial assistance to commercially viable infrastructure projects in the country to sectors such as transport, energy, water sanitation, communication, social and commercial infrastructure, etc. with an overriding priority to Public Private Partnership (PPP) projects.

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**PORTS**

India has a coastline of 7,516 kms, forming one of the biggest capes in the world. According to the Ministry of Shipping, ~95% of India’s trading by volume and 70% by value is through maritime transport. It has 12 major ports, 200 notified non-major and intermediate ports.

Cargo traffic refers to the inflow and outflow of goods carried on ships. The growth of Indian seaborne cargo had reached to 8.2% in 2014-15 however in 2015-16 it declined to 1.9% and in 2016-17 it recovered to 5.7%. Volume of seaborne cargo indicates a derived demand and is vulnerable to the changes in the global activities. Increased demand from sectors like iron ore, petroleum oil, lubricants (POL) and containers resulted in higher movement of cargo in FY 2016-17.

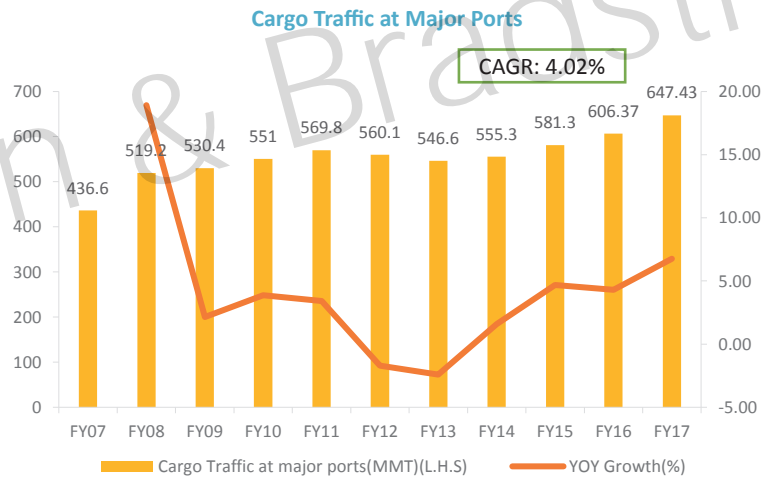
Indian ports are mainly divided into two categories i.e. Major ports and non-major Ports.

### Major Ports:

The Government of India has jurisdiction over Major ports and these ports are governed by the Major Port Trusts Act 1963, except Ennore port, which is administered under the Companies Act 1956.

There are 12 major ports in the country; 6 each on the Eastern and Western coasts.

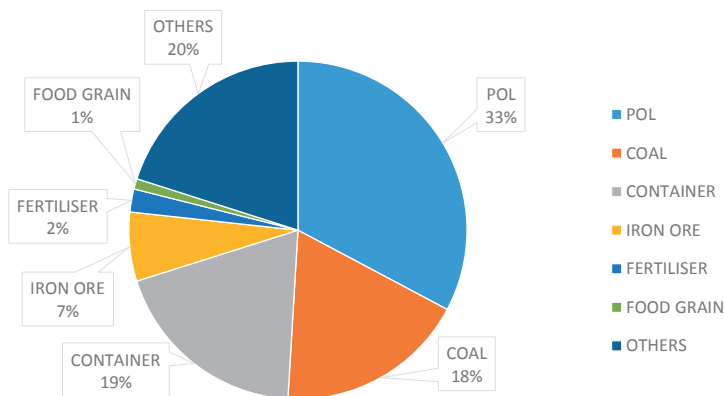
The total cargo traffic for 2016-17 increased by 69.45% yoy at 1,817.33 mn tonnes against 1,072.5 mn tonnes in 2015-16.



Source: Indian Ports Association (IPA), Ministry of Shipping

Cargo traffic at major ports increased by 6.77% yoy to 647.43 mn tonnes in comparison with FY16.

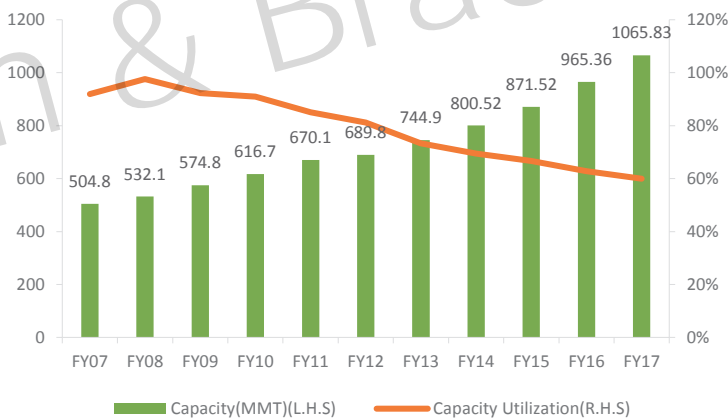
Cargo traffic handled at Major ports (FY17)



Source: Indian Ports Association, Ministry of Shipping

In FY17, Iron ore posted a yoy growth of 177.1% followed by food grains at 163.0%; and POL at 8.4%. Cargo traffic in Fertilizer and Coal posted negative growth of 11.9% and 6.6%, respectively in FY17. In terms of composition of cargo traffic handled during FY17 at major ports, POL contributed the largest among the commodities at 32.8%, followed by Container traffic (19.2%), Coal (18.2%), Iron ore (6.6%) and Fertilizer & FRM (2.2%), food grains (1.0%), and Others cargo (20.1%).

Capacity and Utilization of Major Ports in FY 2016-17



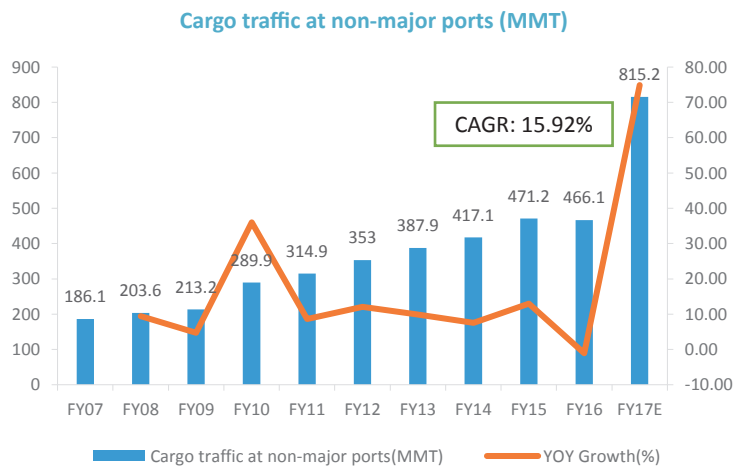
Sources: Ministry of Shipping

Over the years, cargo handling capacity of major ports has steadily increased to cater to the growing volume of local and international trade. The capacity of ports was 172.59 mn tonnes during 1993-94 however it has increased to 1,065.83 mn tonnes in 2016-17, at a CAGR of 7.9%.

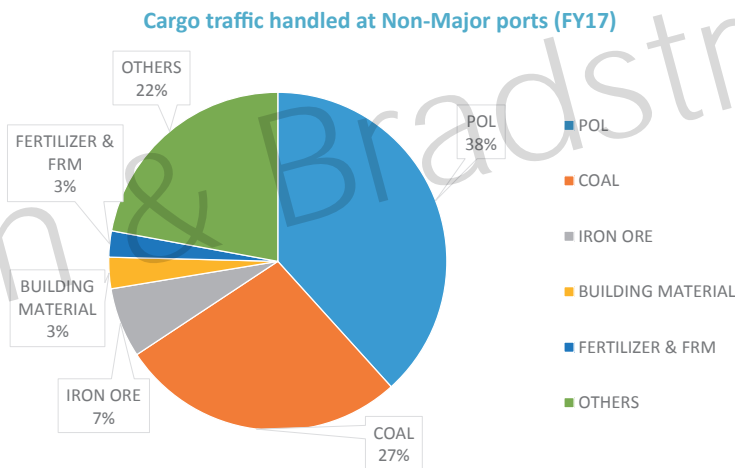
Non-Major Ports:

India has 200 non-major ports of which only one-third are operational. Non-major ports come under the jurisdiction of the respective state Governments’ Maritime Boards (GMB). Cargo traffic for non-major ports stood at 466.1 mn tonnes for FY16. Cargo traffic for FY17 was 1,169.9 mn tonnes thus leading to YoY growth of 150.9%. Saturation of major ports capacities coupled with increase in effectiveness of minor ports to cater to the increasing volume of cargo has led to a surge in the traffic of non-major

ports. This increase in the traffic flow at minor ports has led to a significant increase in the investments by the maritime states.



Source: Indian Ports Association, Ministry of Shipping



Source: Indian Ports Association, Ministry of Shipping

The growth in cargo handled by the non-major ports during FY17 was 4.1% compared to 3.1% previous fiscal year.

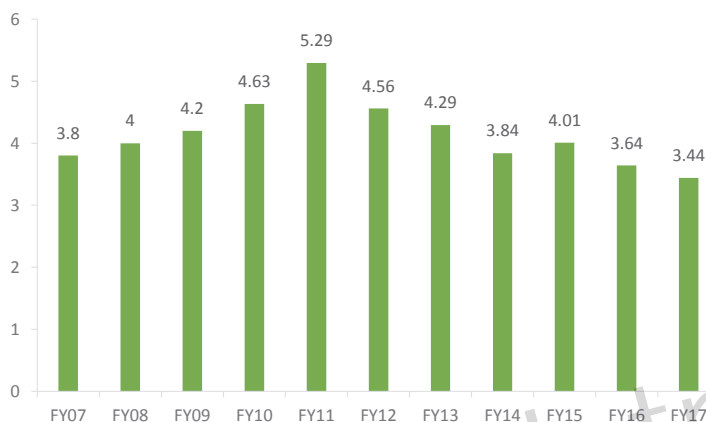
Three maritime States, viz, Gujarat, Andhra Pradesh and Maharashtra together accounted for more than 90% of the total cargo traffic handled by the non-major ports in FY17. Gujarat accounted for 71.2% followed by Andhra Pradesh (14.3%) and Maharashtra (7.2%). The growth of Iron ore in 2016-17 was 86.7% compared to 35.1% in the FY16. The POL, building materials and others commodities recorded growth of 2.9%, 3.3% and 13.0%, respectively during FY17. However, growth of coal, fertilizers & Fertilizer Raw Material (FRM) products decreased by 6.4% and 27.8% in the year FY17.

### Improving efficiency at the ports:

Average turnaround time (ATT) means the lead time between unloading the freight after a trip and completing reloading for the next trip. It plays an important role in determining the success of ports.

The ports seemed to be highly inefficient in FY2011 with ATT of 5.29 days (at a 10-year high!); however gradually improved to 3.44 in FY2017. The improvement can be attributed to initiatives taken by government such as improving connectivity and logistics, automating ports and augmenting existing facilities. Amongst the 12 major ports, improvement in ATT during 2016-17 compared to corresponding period of 2015-16 is reflected in all Major Ports except Kolkata (KDS & HDC), Paradip, Chidambaranar and Mormugao.

Average turnaround time for major ports (in days)



Source: Indian Ports Association

## Government Projects and Schemes

### Maritime Agenda 2010-20:

In the Maritime Agenda 2010-20, an objective of 3,130 MT port capacity has been set for the year 2020. More than 50 per cent of the port capacity is to be created in the non-major ports as the traffic handling by these ports is expected to increase to 1,280 MT. The proposed investment in major and non-major ports by 2020 is expected to be around ₹ 2,773.8 bn. Majority of the investment is expected to come from the private sector including foreign direct investment (FDI). The FDI up to 100% under the automatic route is permitted for construction and maintenance of ports. Private-sector participation (PPP) will not only increase investment in the ports' infrastructure, but also increase efficiency in ports through induction of latest technology and better management practices.

Maritime Agenda 2010-20 has estimated that investment required in new projects of major ports will be ₹ 1,094.5 bn, of which ₹ 728.8 bn (66.58%) is expected to come through private sector participation on a Design Build Finance Operate and Transfer (DBFOT) or Build Operate Own and Transfer (BOOT) basis; and the balance ₹ 365.7 bn to be funded through internal and extra budgetary support.

Twelfth Five Year Plan:

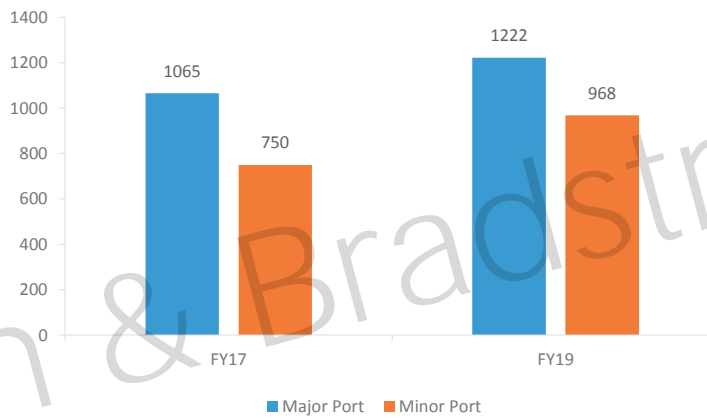
The projected capacity during the terminal year of 12th Plan period for the Major ports would be 1,229.24 MT, nearly, 1.53 times of the existing capacity. The expected demand by the end of the 12th year plan in terms of cargo handling at major Ports as per the 12th five-year plan is 943.06 MT with an estimated annual growth of 10.98%. The cargo handling capacity in Major Ports at the end of December 2016 was 1,005.00 MT.

## Major Port Authorities Bill:

The bill was introduced in the Winter Session of the Parliament in Lok Sabha on 16th December, 2016. The objective was to promote the expansion of port infrastructure and facilitate trade and commerce by modernizing the institutional structure of the Major Ports. The proposed bill aims at decentralizing decision-making and infuse professional approach in governance of ports. This is expected to eliminate the need of Government approvals for operational decisions. The Bill is aimed at reorienting the governance model in central ports to landlord port model in-line with the successful global practices.

Under the Major Port Authorities Bill, Master plans for all 12 major ports have been identified for implementation over the next 20 years under the Sagarmala programme along with 142 ports capacity expansion projects which would entail a total cost of ₹ 914.3 bn and capacity addition of 884 MTPA. Government aims to implement projects worth over ₹ 5,000 bn under the Sagarmala initiative by May 2019.

Ports Capacity forecast (MMT)



Source: Indian Ports Association

## Sagarmala:

Vision of the Sagarmala Programme is to reduce logistics cost and time for the movement of EXIM and domestic cargo and development of port-proximate future industrial capacities near the coast is a step in this direction. Over 400 projects worth ₹ 7,000 bn have been identified across the areas of modernization of ports & development of new ports, enhancement of port connectivity, port-linked industrialization and coastal community development. A total of 14 projects have been taken up in FY15-16 and FY16-17 amounting to ₹ 2.4 bn. Projects under Sagarmala will be implemented by relevant Central Government Ministries, State Governments, Ports and other relevant agencies primarily through the private or PPP mode.

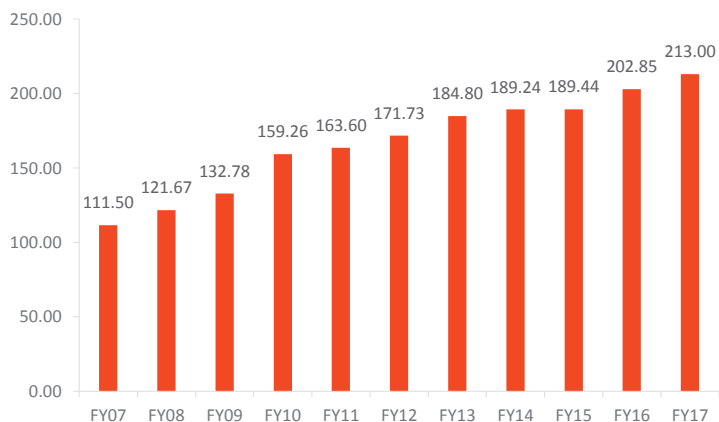
The projects identified under Sagarmala Programme are expected to mobilize infrastructure investment of more than ₹ 7,000 bn, Increase the share of domestic waterways (inland & coastal) in the modal mix to two fold, generate logistic cost savings of ₹ 350 - 400 bn per annum, boost merchandize exports by USD 110 Bn (₹ 7,392.6 and creation of 10 mn new jobs, including 4 mn direct jobs, in the next 10 years.

## Major Imports:

Rising Crude demand supported by increase in import of crude

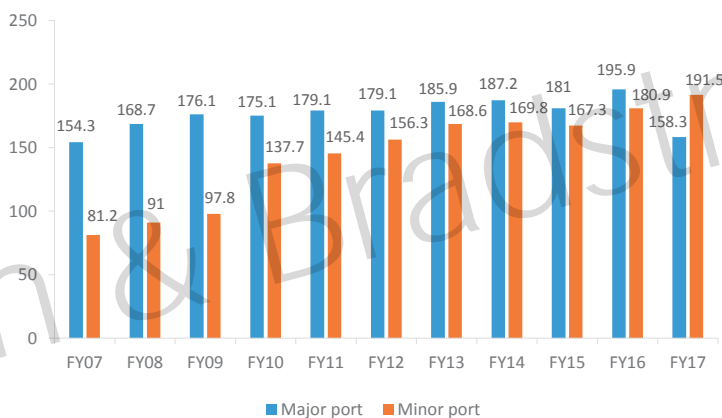


**Crude Imports (MMT)**



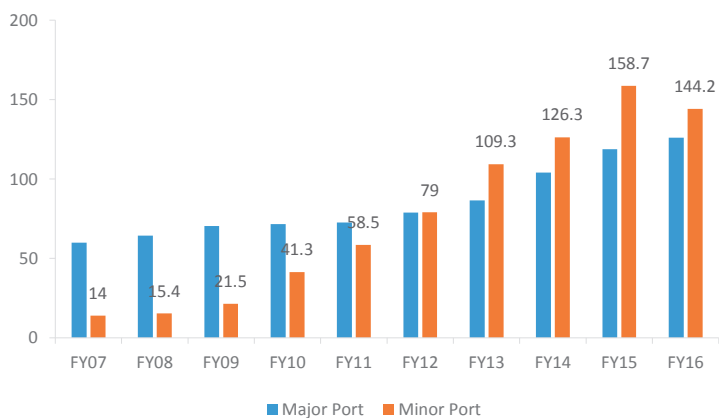
Source: Indian Ports Association

**Pol Traffic (MMT)**



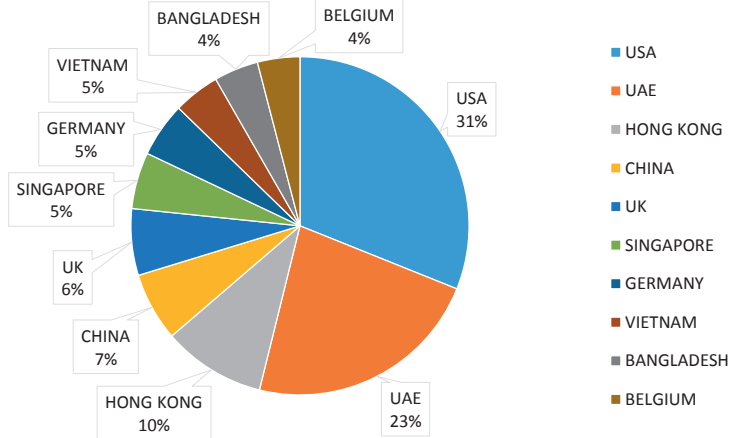
Source: Indian Ports Association

**Coal Cargo Traffic (MMT)**



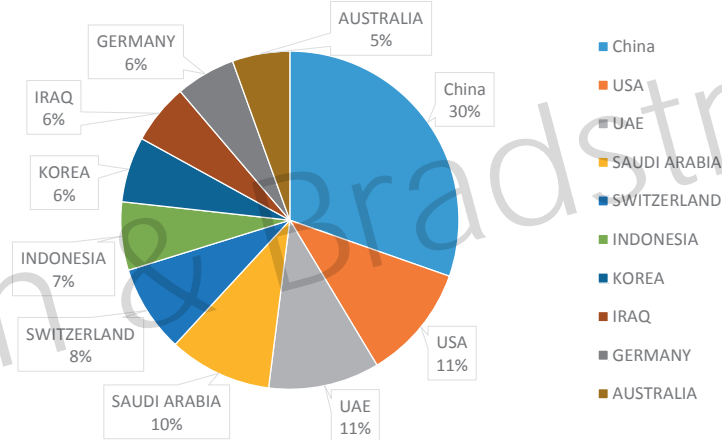
Source: Indian Ports Association

India's Top Importers in FY 2016-17



Source: Department of Commerce

India's Top Exporters in FY 2016-17



Source: Department of commerce

**Foreign Direct Investment:**

With the opening up of economy, the government of India has also opened up Private sector participation in Major ports to infuse funds, induct latest technology, improved management practices and above all addition of capacity.

FDI up to 100% under automatic route is permitted for construction and maintenance of Ports and Harbours. Private sector is envisaged to fund most of the projects through PPP or BOT or BOOT basis; and the guidelines are already in place. During the year 2015-16, 10 PPP projects were awarded at an estimated investment of ₹ 76.7 bn for the capacity addition of 73.25 mn Tonnes in the major ports comprising construction of berths and terminals and mechanization of existing berths.

In the first half of FY17, sixteen Projects with an estimated investment of ₹ 9.1 bn for capacity expansion of 16.86 mn Tonnes have been awarded by Major Ports.

**Export Focus:**

In order to bridge down the costs incurred on account of absent infrastructure, and create forward and backward linkages, the government has launched - Trade Infrastructure for Export Schemes (TIES). The TIES scheme has a budget allocation of ₹ 6 bn for 3 years with an annual outlay of ₹ 2 bn. TIES focuses on developing outbound infrastructure to boost export shipments i.e. testing and handling facilities and cold chains, trade promotion centres, export warehousing and packaging at the major and non-major ports. It will enable the ports to have an efficient movement of export cargo and also warrant the required quality standards and certifications.

**Challenges:**

- **Inadequate capacity:** The infrastructure of existing ports is incompetent to meet the requirements for maintaining a low Average turnaround Time, which leads to delays and inefficiency and thereby hindering productivity. Some of the ports are not capable enough to dock large ships which in turn have to be placed at a distance thereby incurring additional transportation costs.
- **Poor Connectivity:** Substandard connectivity of the ports with the roadways and railways is a major factor which contributes towards an increase in costs as well as time thereby leading to inefficiency.
- **Port projects lack financing options:** Due to the long periods of time taken for port projects to be completed, developers find it difficult to access banks and financial institutions to raise money.

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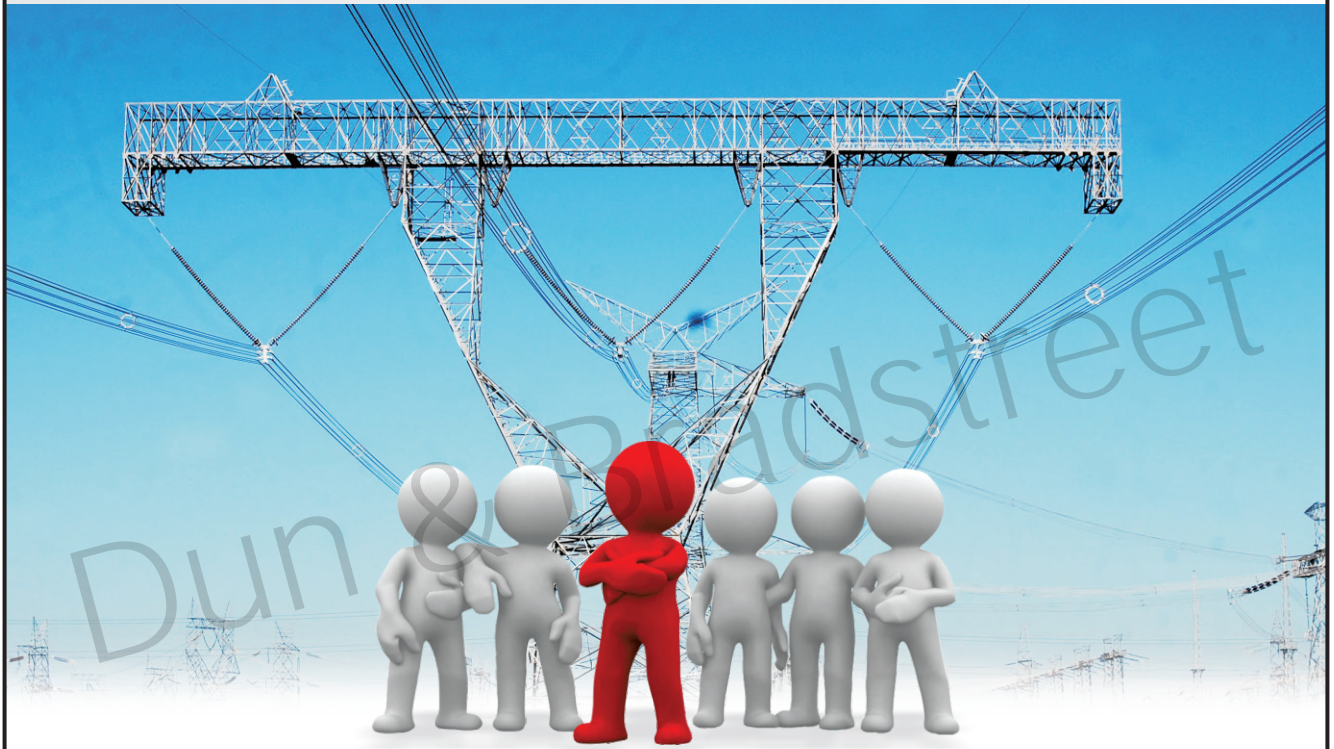
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(A Government of India Enterprise)

Corp. Office : "Saudamini", Plot No. 2, Sector-29, Gurgaon, Haryana-122 001 Ph.: 0124-2571700/90

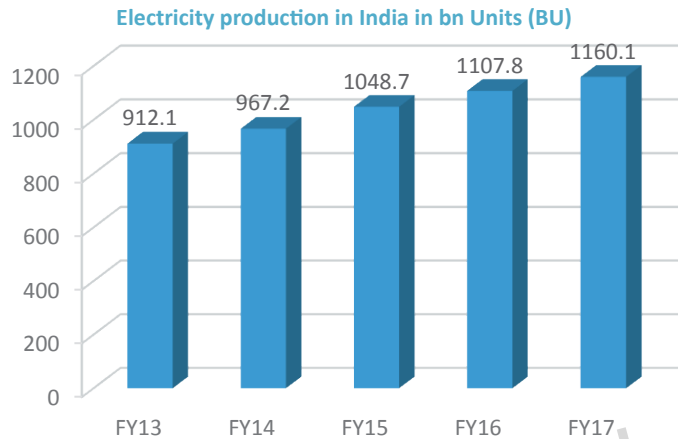
• POWERGRID is one of the World's largest power transmission utility, provide world class solutions to its clients, wheeling 45% of the total power generated in India. • Efficiently maintains over > 99% system availability of its huge pan-India network of 142,989 circuit kms. & 226 Sub-stations, with a total transformation capacity of 3,11,185 MVA. • Under diverse geographical conditions, testify to POWERGRID's versatility & reliability. • In-house expertise in latest technologies like HVDC, GIS, SCADA/EMS. • Offering consultancy assignment in 20 countries of World Wide.

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**POWER**

India is the third largest producer and the third largest consumer of electricity in the world with an annual electricity production of 1423 TWh in 2017. Although power generation has grown by more than 100-fold since 1947, the growth in demand has been even higher due to accelerating economic activity and the population growth.

## Electricity Production



*Source: Ministry of Power (Government of India)*

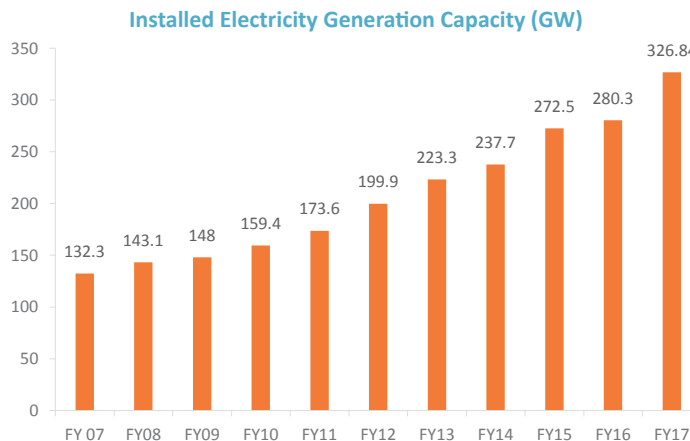
India has witnessed a significant growth in electrical production of around 4.72% to 1,160.1 BU in FY 2017 over the previous fiscal year.

Over FY 2010–17, electricity production in India grew at a CAGR of 7.03%. According to the 12th Five Year Plan, the total domestic energy production would reach 844 mn Tonnes of Oil Equivalent (MTOE) by 2021–22.

Power supply position has improved in India over last fiscal year:

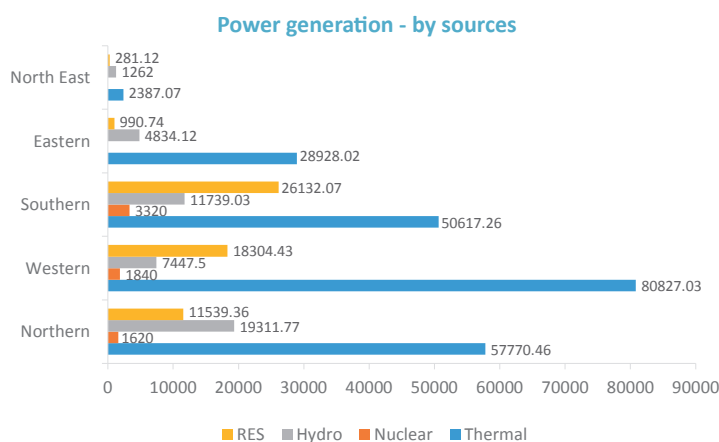
- The power supply gap has reduced to 0.2% in 2016-17 from 2.2% in 2015-16.
- The peak shortage has also reduced to 1.6% in 2016-17 from 3.2% in 2015-16.

## Installed Capacity



*Source: Ministry of Power (Government of India)*

The installed power generation capacity has grown to 326.84 GW in FY 2017 from 132.3 GW in FY 2007, at a CAGR of 9.47%; and from 280.3 GW in FY 2016 at a y-o-y growth of 16.6%.



Among the different sources of power in India, the growth (CAGR) in the installed capacity over FY 2007–17 is as follows:

- 22.06% for renewable energy,
- 10.57% for thermal power
- 5.68% for nuclear power
- 2.51% for hydro power

#### Solar Energy:

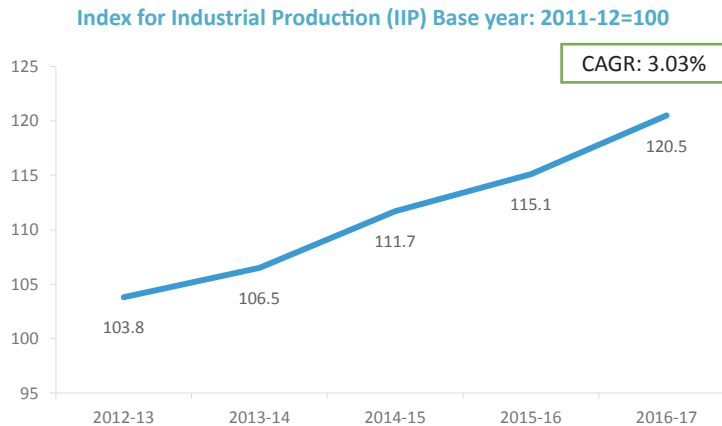
India is expected to become the third biggest solar market across the globe in 2017, with a capacity addition of 8.8 gigawatt (GW) projected for the year ahead. Moreover, the country's solar capacity is expected to reach 18.7GW by 2017, which is about 5% of global solar capacity. Non-Conventional energy sector witnessed maximum power generation capacity addition, since 2000.

In May 2017, the government of India approved a bond issuance of US\$ 351.03 mn issued by Indian Renewable Energy Development Agency (IREDA) for renewable energy. The funds will be used by the Ministry of New and Renewable Energy for the approved schemes for green corridor, Central Public Sector Undertakings (CPSU), defense solar projects, solar parks, and generation-based incentives for wind projects.

#### Demand Drivers:

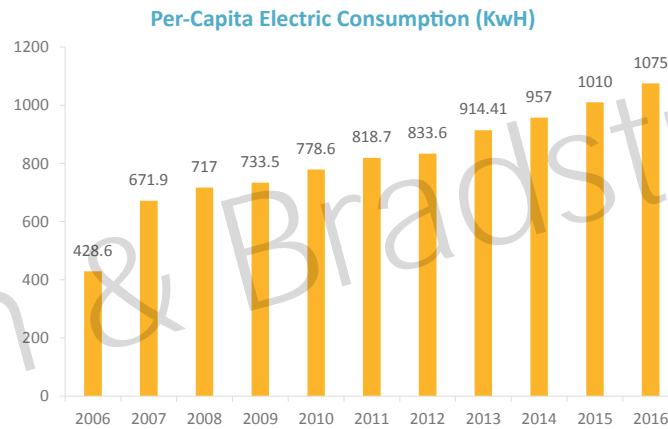
Per capita electricity consumption in the country grew at a CAGR of 9.63%, during FY2006-16, reaching 1,075 KWh in FY16. Multiple drivers have led to the growth in demand for power including, the GDP growth, increased industrial activity, and population growth:

- During FY17, GDP has grown at an average of 7.1%, as compared to 8.01% in 2015-16, and 7.51% in 2014-15
- India is set to become a global manufacturing hub with investments across the value chain. Index for Industrial production(IIP) shows a consistent growth in the past five years from 103.8 in 2012-13 to 120.5 in 2016-17,
- India's current population is 1.324 bn, and has grown by 1.046% from 2010 to 2017



Source: Bloomberg

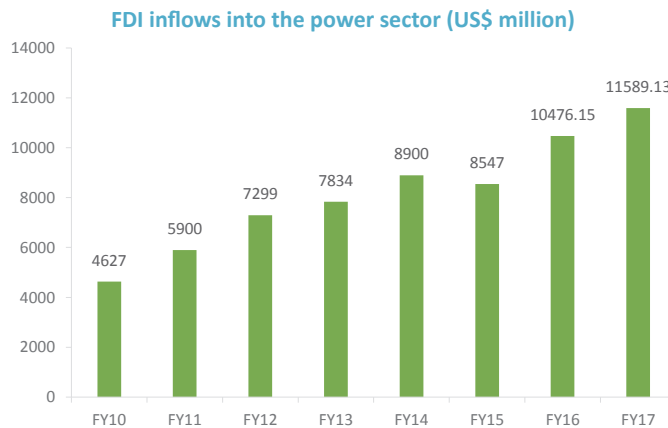
India's energy requirement is expected to rise up to 1,611 BU by FY22



Source: DIPP

**Foreign Direct Investments (FDI):**

Power is one of the key sectors attracting FDI inflows into India. It accounted for 3.49% of total FDI inflows till March 2017. Cumulative FDI inflows into the sector from April 2000 to March 2017 were US\$ 11.59 bn. From April 2000 to March 2017, India has recorded the FDI of US\$ 5.18 bn in non-conventional (i.e. renewable) energy sector, which underlines the importance of renewable energy in future.



Source: DIPP



### Key Investments in the Sector

SunEdison, the world's largest renewable energy company, plans to continue its focus on 'Make in India' initiative by further reducing the cost of renewable energy and developing over 15 gigawatts (GW) of wind and solar projects in the country by 2022.

Jera Co., a JV between Tokyo Electric Power Company Holdings Inc. and Chubu Electric Power Co., acquired a 10% stake in ReNEW Power Ventures Ltd. (a Gurgaon based Renewable energy company), in February 2017.

In May 2017, 12 agreements and MoUs worth US \$9 bn of investments have been signed between India and Bangladesh. An agreement worth US \$2 bn of investments in Bangladesh's power sector by Adani Power, a subsidiary of Adani Group has been signed as well.

In April 2017, Larson & Toubro's construction division received an order from Qatar General Electricity and Water Corporation worth US\$780.9 million, for network expansion and power transmission.

In May 2017, PE Actis LLP announced plans to invest US\$ 500 mn in Solenergi Power Pvt. Ltd., its 2nd green energy platform in the country. The company was also awarded Rewa Solar Power Project in Madhya Pradesh

### The Road Ahead

The projected peak demand is 235 GW and energy requirement is 1,611 BU (after considering DSM measures) by 2021- 22. Current production levels are not sufficient to meet the potential demand; at present the annual demand outstrips supply by about 7.5%. Considering the committed capacity addition from Gas (4,340 MW), Hydro (15,330 MW), Nuclear (2,800 MW) and Renewable Energy sources (1,15,326 MW) during 2017-22, the reveals that no coal-based capacity addition is required during 2017-22. However, a total capacity of 50,025 MW coal-based power projects is currently under different stages of construction and is likely to yield benefits during 2017-22. Thereby, the total capacity addition during 2017-22 is likely to be 1,87,821 MW.

It is expected that the share of non-fossil based installed capacity (i.e. nuclear, hydro, and renewable sources) will increase to 46.8 % by the end of 2022 and will further increase to 56.5 % by the end of 2027.

The Renewable Energy Generation will contribute about 20.3 % and 24.2 % of the total energy requirement in 2021-22 and 2026-27 respectively.

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**TELECOM**

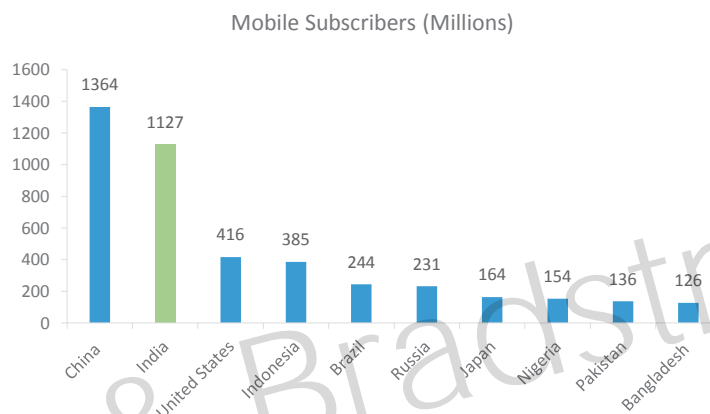
Telecommunication has made the world a global village, bringing 98% of the world under its network coverage. With prevalent globalization, privatization and liberalization, the importance of telecommunication has increased significantly.

India is the 2nd largest telecom network in the world after China and enjoys a subscriber base of ~1.2 bn (February 2017). India also ranks 3rd with 391.50 mn internet subscribers in 2016. According to the Telecom ministry, the internet users will grow to 730 mn by 2022.

## Telecom Subscriber Base

Top 10 countries with highest mobile subscriber base in 2016-2017:

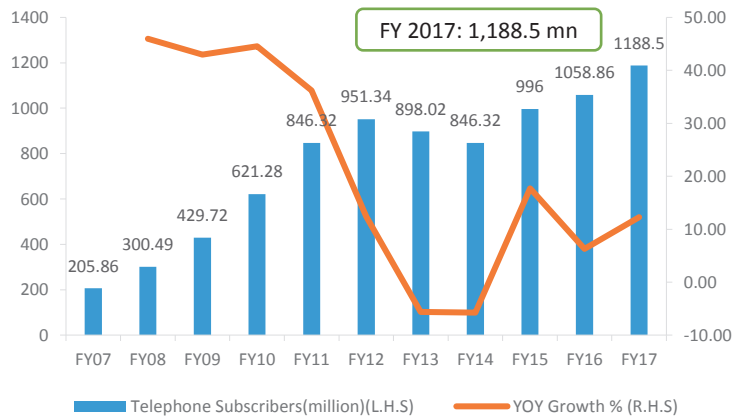
Top 10 countries with highest mobile subscriber base in 2016-2017



Source: TRAI

Indian mobile subscriber base has been rising at a CAGR of 19.16% over the past 10 years and had crossed the bn-dollar mark in FY16. India and China accounts for over 55% of the total subscribers in the world. India's mobile subscriber base grew at 12.27% in FY17 on a y-o-y basis and mobile-cellular subscriptions per 100 habitants increased from 78.06 in 2015-16 to 86.95 in 2016-17.

Telephone Subscribers



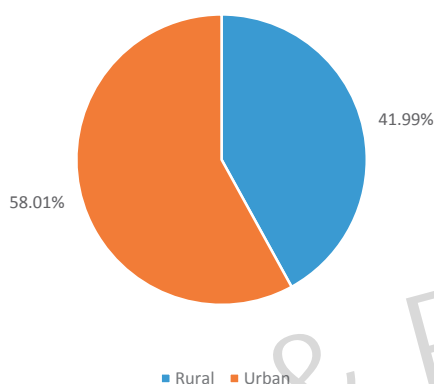
Source: TRAI

### Composition of Telephone Subscribers

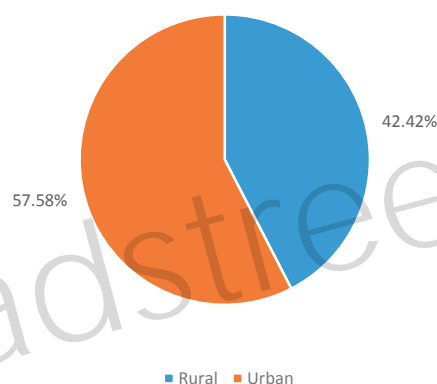
Subscription in Urban Areas increased from 683.14 mn at the end of Dec-16 to 692.97 mn at the end of Mar-17, and Urban Tele-density also increased from 170.15 to 171.80 during the same period. Rural subscription also increased from 468.64 mn to 501.61 mn and Rural Tele-density also increased from 53.27 to 56.91 during the same period.

In June 2017, total internet subscribers reached 431.21 mn with Urban internet subscribers at 293.82 mn (68%) and Rural internet subscribers at 137.9 mn (32%). Rural subscriber base has witnessed an increase of 20% in the subscriber base from 115 million in December 2016. Urban subscriber base has reached a saturation point and rural India is expected to drive the growth for the mobile internet market.

Telephone subscribers Split (% , FY17)

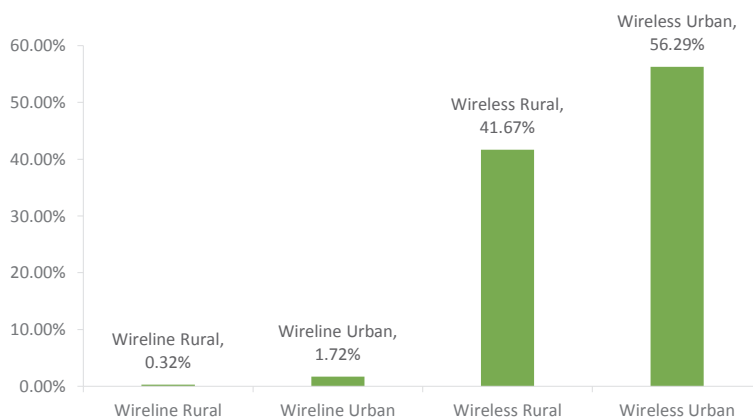


Telephone subscribers Split (% , FY16)



Source: TRAI

### Wired & Wireless breakdown

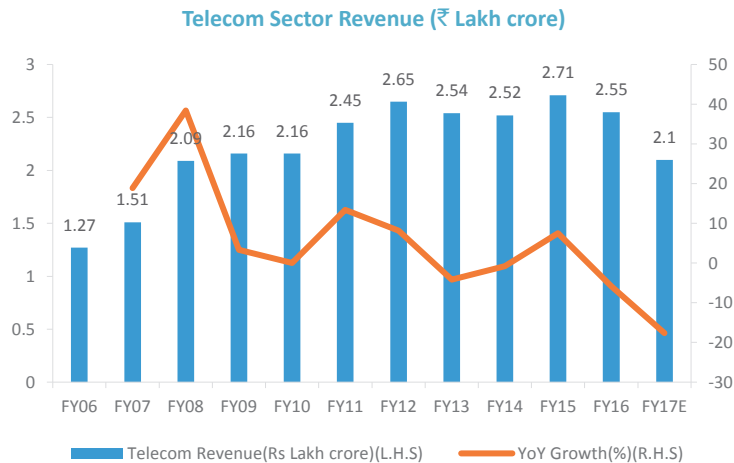


Source: TRAI

Total wireless (GSM+CDMA) subscriber base increased from 1,127.37 mn at the end of Dec-16 to 1,170.18 mn at the end of Mar-17, registering a quarterly growth rate of 3.80% over the previous quarter. The year-on-year (Y-O-Y) growth rate of wireless subscribers for Mar-17 is 13.21%.

Wireline subscriber base more or less remained same at 24.40 mn at the end of Mar-17 as per previous quarter. The year-on year (Y-O-Y) decline rate in wireline subscribers for Mar-17 is 3.27%.

## Sector Revenue

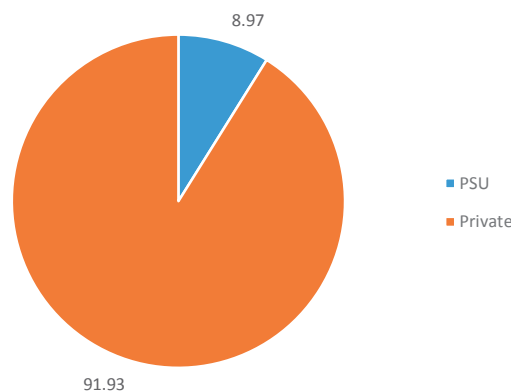


Source: TRAI

Adjusted telecom revenue has grown at a CAGR of 7.2% during FY 2007 -17. However, there has been a decline in Revenue in FY16 and FY17E on account of low Average Revenue Per user (ARPU). The disruption caused by Reliance Jio has made data and voice services available at very low cost (Reliance Jio offered free of cost data and voice services for a period of 1 year). In order to cope up with the competition, other major market players also offered services at a very minimal rate.

## Market Share Breakdown

Market Share of PSUs and Private Internet Service Providers (2016-17)

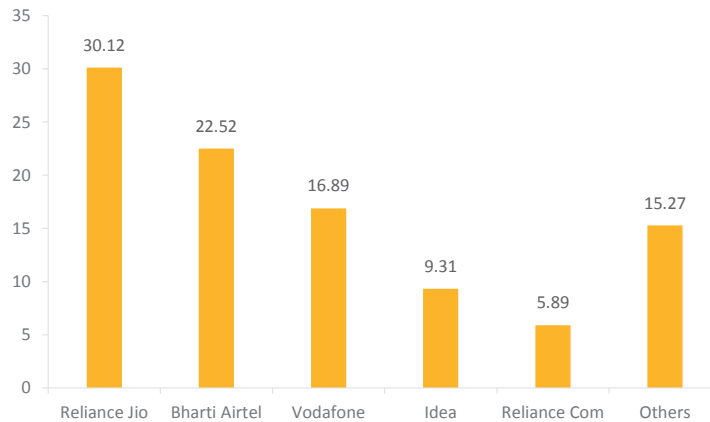


Source: TRAI

Telecom sector consists of around 12 companies which dominate the wire-line and wireless segments. Wired Segment is dominated by the PSU's which mainly includes BSNL and Bharti Airtel; BSNL holds 61.06% market share with 13.17 mn subscribers, followed by Bharti with 2.08 mn subscribers. Total

number of wired internet subscribers were 21.58 million at the end of Mar-17. The Wireless segment which was dominated by Vodafone, Airtel and Idea, witnessed a steady increase in Reliance Jio subscribers from 16 mn in September 2016 to 108 mn in March 2017. After conversion from free to paid schemes, Reliance Jio was able to retain 72 mn customers (66.67%).

Wireless Internet Subscription Market Share (%), June 2017



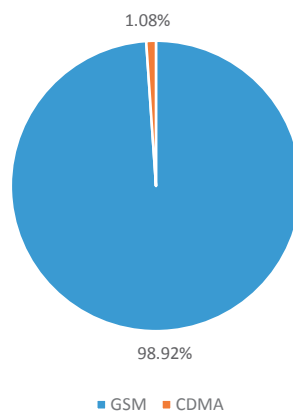
Source: TRAI

Bharti was the leading service provider with 273.65 mn wireless subscribers at the end of Mar-17, followed by Vodafone with 209.06 mn. In terms of net additions during the quarter ending Mar-17, Reliance Jio has added the highest number of subscribers (36.52 mn), followed by Bharti Airtel (7.80 mn). However, according to the June 2017 report by TRAI, Reliance Jio had gained the largest market share followed by Airtel and Vodafone.

**GSM Dominates the Telecom Market**

**Wireless technologies:**

Share of Wireless Subscription



Source: TRAI

GSM stands for Global System for Mobile Communications and allows customers to switch between carrier services. GSM technology has been adopted in major parts of the world. CDMA stands for Code Division Multiple Access and it doesn't provide the option to the customer to change between carrier services and is prominent only in the United States and Russia along with some Asian and African countries.

## **GSM:**

At the end of Mar-17, GSM (including Long Term Evolution (LTE) technology) subscribers constituted 98.92% share of the wireless market as compared to 95.73% in previous year.

Due to the lack of option to switch between carriers and with the introduction of LTE which is a part of GSM, majority of the customers are opting for GSM technology causing a major loss to the CDMA sector.

The GSM (including LTE) subscribers increased from 1,112.30 mn at the end of Dec-16 to 1,157.59 mn at the end of Mar-17, showing a quarterly growth of 4.07%. Bharti Airtel with 273.65 mn subscribers continues to be the largest GSM mobile operator, followed by Vodafone (209.06 mn).

There has been a net increase of 45.29 mn GSM subscribers during the quarter ending Mar-17. Reliance Jio showed maximum net addition in its GSM (LTE) subscriber base.

## **CDMA:**

There were only three telecom service providers providing CDMA services during the quarter ending Mar-17. The CDMA subscriber base declined from 15.07 mn at the end of Dec-16 to 12.59 mn at the end of Mar-17, thereby showing a quarterly decline rate of 16.46%. Tata Teleservices with 6.90 mn subscribers became the leading operator in CDMA service.

## **INTERNET**

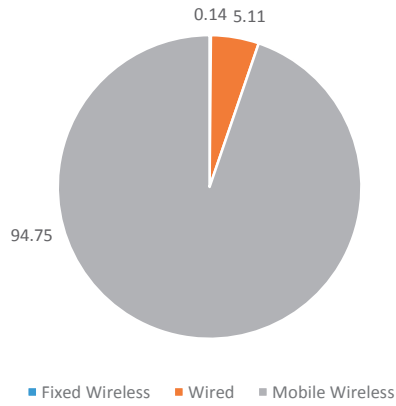
According to telecom operators' reports, total number of internet subscribers increased to 422.19 mn in Mar-2017 from 391.50 mn in Dec-2016 with quarterly growth rate of 7.84%. This growth was fueled by the low cost carrier service provided by Jio which enabled people to access data services at negligible costs.

Wired Internet subscribers increased from 21.51 mn by Dec-16 to 21.58 mn by Mar-17 with quarterly growth of 0.33%. And, the wireless Internet subscribers increased from 370 mn by Dec-16 to 400.62 mn by Mar-17 with quarterly growth rate of 8.28%.

Number of broadband subscribers increased from 236.09 mn at the end of Dec-16 to 276.52 mn at the end of Mar-17 with quarterly growth rate of 17.12%. However, the number of Narrowband subscribers declined from 155.41 mn at the end of Dec-16 to 145.68 mn at the end of Mar-17 with quarterly decline rate of 6.26%.

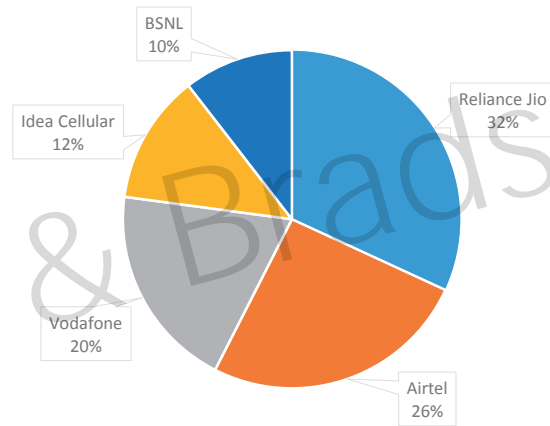


Internet Subscription breakdown % (FY 2016-17)



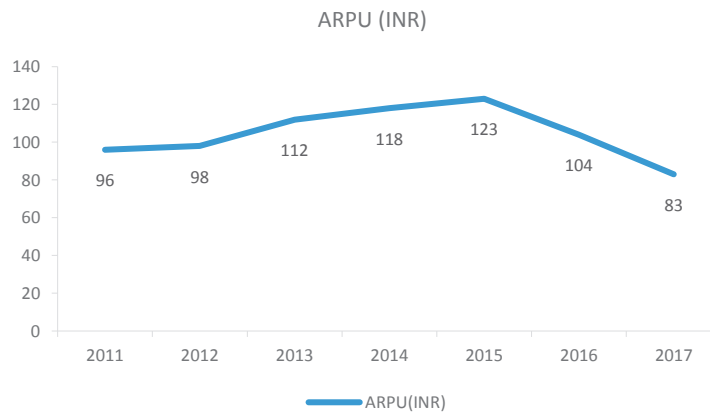
Source: TRAI

Top Internet service providers by subscriber base (millions) 2016-17



Source: TRAI

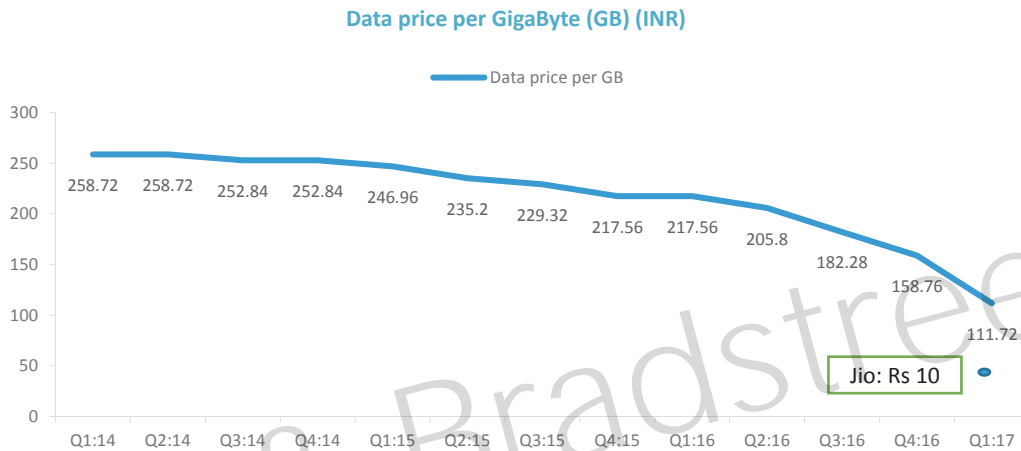
Average Revenue Per User (ARPU) Trends



Source: KPMG

The entry of Reliance Jio in the telecom market was marked by a steep decline in the Sector's Average Revenue per User (ARPU) towards the end of 2015. Jio had offered free data and voice services which attracted millions of new customers which included customers switching over from other carriers. The other major carriers such as Vodafone, Airtel and Idea came up with retaliation pricing offers in September 2016, which helped them to scoop up the market share of the minority players in the market but however they failed to support the ARPU. TRAI reported a loss of 55 lakh mobile subscribers by the small operators along with 15 lakh active subscribers in April'17. According to Bloomberg Quint, ARPU is further expected to decline by 11% yoy basis.

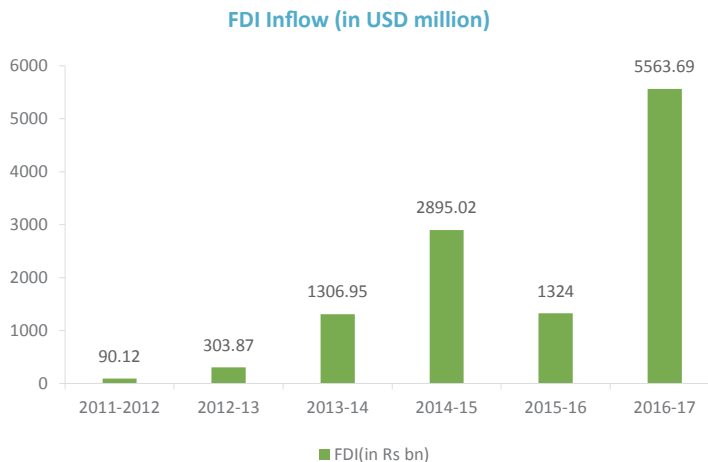
## Data Usage



Source: Kleiner Perkins Caufield & Byers

India witnessed a tremendous increase in the monthly data usage from 200 mn Gigabytes (GB) in June 2016 to 1.3 bn GB in March 2017. The steep increase in the data usage is attributed to the disruption caused by Reliance Jio which offered Voice and data services at an extremely low rate which led to other major market players to follow the trend.

## Investments in the Telecom Sector



Source: TRAI

Foreign Direct Investment (FDI) grew at a CAGR of 138% during FY 2011-15 on account of improvement in economic conditions and stable economic government at the centre. However, there was a steep decline in FY16 to US\$1,324 mn driven by huge spectrum rates and tax evasion cases against some service providers which led to investors substantially reducing their investment interest in this sector. With the change in government in FY17 along with the Make In India initiative, the FDI investments have drastically increased to US\$ 5,563.69 mn (an increase of 320% on yoy basis from FY 2015-16). The government has taken various initiatives to promote manufacturing in the telecommunication sector by increasing the FDI limit in manufacturing of telecommunication products to 100%.

In March 2017, Vodafone announced its merger with Idea Cellular to become India's biggest telecom operator. The merger will result in a customer base of 400 mn, constituting ~35 per cent market share.

NTT Communications has acquired a Virtual Network Operator – International Long Distance (VNO-ILD) license in India. This license will allow NTT Com to add Arcstar Universal One International Network Services in its brand. The company will be using their ICT solutions to help enterprise customers build its ICT environment for business expansion in India.

#### List of recent mergers & acquisition activity in the Indian telecom sector:

Announce Date	Target Name	Acquirer Name	Seller Name	Announced Total Value (₹ mil.)	Payment Type	Deal Status
3/20/2017	Vodafone India Ltd	Idea Cellular Ltd	Vodafone Group PLC	12678.97	Stock	Pending
10/14/2016	Nationwide tower assets & related infrastructure	Brookfield Infrastructure Partners LP	Reliance Communications Ltd	1649.18	Cash	Pending
4/22/2017	Chennai Network Infrastructure Ltd	GTL Infrastructure Ltd		847.98	Stock	Completed
8/3/2017	11000 Vodafone towers/India	Potential Buyer	Vodafone Group PLC	600	Cash	Proposed
4/8/2016	4G LTD spectrum	Bharti Airtel Ltd	Aircel Ltd	523.87	Cash	Completed
6/28/2016	Neotel Pty Ltd	Royal Bafokeng Holdings Pty Ltd, Econet Wireless Global Ventures Ltd	Tata Communications Ltd	431.33	Undisclosed	Completed
5/19/2016	STT Global Data Centers India Pvt Ltd	Singapore Technologies Telemedia Pte Ltd	Tata Communications Ltd	342.79	Undisclosed	Completed
3/23/2017	4G business	Bharti Airtel Ltd	Tikona Digital Networks Pvt Ltd	244.53	Cash and Debt	Completed
8/29/2017	Tikona Digital Networks Pvt Ltd	Bharti Airtel Ltd	Multiple Entities*	244	Cash	Completed
10/26/2016	Ocular Technologies Sarl	Sun Pharmaceutical Industries Ltd	Auven Therapeutics Management LLLP	40	Cash	Completed
2/14/2017	MPS Telecom Pvt Ltd	Optimus Infracom Ltd		5.23	Cash	Completed
6/21/2017	LCC Pakistan Pvt Ltd	TalkPool AG	Tech Mahindra Ltd	5.2	Undisclosed	Pending

Source: Bloomberg

\* International Finance Corp, Private Investor, Goldman Sachs Asset Management LP, India Indivision Partners, Goldman Sachs Capital Partners (Fund: GS Capital Partners VI LP), Oak Management Corp/California (Fund: Oak Investment Partners XIII LP), Everstone Capital Advisors Pvt Ltd

## Recent Trends

### Aadhaar Based e-KYC for New Subscribers

Per the goal of ‘green telecom’, the Government has prescribed an ‘Aadhaar based E-KYC services’ for issuing mobile connections from September, 2016. Under this, a subscriber can authenticate himself using his biometrics at the point-of-sale (POS) and obtain a new activated sim-card in 30 minutes. When manually done, this process takes almost a day and involves a lot of paper work. In addition to simplifying the process it also ensures security assurance and is an environment friendly measure expecting saving of more than 50,000 trees annually.

### Abolition of Wireless Operating License for Telecom Service Providers

To facilitate the ease of doing business, Department of Telecom (DOT) has abolished the wireless operating licence for telecom providers from 2nd November, 2016. This would obviate the need for about 250,000 endorsements to be done by DOT annually and result in consequential convenience to Telecom companies. Furthermore, this would prevent the delay in utilisation of scarce infrastructure as radio transmission can be started immediately on installation of base stations without waiting for obtaining clearance from DOT.

### Full Mobile Number Portability (MNP)

Government has allowed One Nation - Full Mobile Number Portability (MNP) recently. This has enabled the subscribers to change their licence service area and still retain their mobile number. MNP also allows subscribers to retain their existing mobile number when they switch from one telecom service provider to another irrespective of technology or service area limitation. This also helps in developing mobile numbers as an identity of individuals for providing various government services and more towards JAM (Jan Dhan-Aadhar-Mobile) Trinity.

### IPv6

The ‘Digital India’ programme aims to connect all gram panchayats by broadband Internet, promote e-governance and transform India into a connected knowledge economy. Accordingly, ‘Compendium on IPv6 based Solutions /Architecture/ Case Studies for Different Industry Verticals’ was released by the Department for the benefit of the ecosystem

### Internet of Things (IoT)

IoT is defined as a worldwide network of “things” that include identifiable devices, appliances, equipment, machinery of all forms and sizes with the intelligence to seamlessly connect, communicate and control or manage each other to perform a set of tasks with minimum intervention. According to DOT, IoT is expected to create 10-15 million jobs and a major chunk of these jobs will be created by startups rather than large companies. IoT represents a paradigm that can also help overcome the deficits that India has been facing in terms of agriculture, healthcare and transportation. The growth in IoT will be one of the key drivers for the accelerated telecom growth in future.

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**INFRA NEXT: FASTER,  
GREENER, SMARTER**

# FASTER: NEXT-GENERATION CONSTRUCTION METHODS

India has recently outpaced China to emerge as the fastest growing large economy. In spite of this, it still features among 'developing nations'. In order to take a leap into the bigger league of developed economies, India will need to mobilise capital and heavy investment to upgrade its infrastructure to world-class standards. Also, to help India to sustain its rapid growth trajectory, this world-class infrastructure will need to be built at a fast pace. Accordingly, the focus should be on integrating advanced technologies and techniques to accelerate the pace of building sustainable infrastructure and upgrading the existing infrastructure to a world-class level.

The economic development of most countries, especially emerging economies, is significantly dependant on the level and pace of infrastructure development. A country with poor infrastructure not only encounters impediments in efforts to boost economic activity levels, but is also deemed to be unattractive for investment. Poor implementation, along with factors like bureaucratic hurdles, delays in securing clearances and approvals, land acquisition problems, cost-overruns due to delays, etc., tend to render infrastructure projects obsolete by the time they are commissioned, thereby making them financially unviable.

Infrastructure projects in India are highly susceptible to hurdles caused by land acquisition issues, bureaucratic delays, and delays in securing approvals and clearances. Therefore, it is crucial to innovate and adopt new methods of construction to not only help reduce the cost of construction, but also the time taken. The focus ought to be on getting projects commissioned quickly while ensuring quality construction.

Modern construction methods are designed to make the process of construction safer, faster, and cheaper. Some of the next-generation construction methods/techniques that are being used in India are as follows:-

### 1) Use of pre-fabricated cast concrete structures/components

This involves large concrete components being fabricated offsite, subsequently being transported to the site and assembled to create a superstructure. This results in faster and cheaper construction, primarily because the components are fabricated using 3D modelling and are made in controlled factory settings. Another advantage is that they can be designed to include mechanical, electrical and plumbing connections, thereby reducing the labour time that would otherwise be required to install the same at a later stage.

This technique was used in 2012 to construct INSTACON, a 10-storey building in Mohali, Punjab. The structure was constructed in a record 48 hours. Most of the components of the building were manufactured in the factory, pre-fitted with floors and other essentials including provisions for water supply, wiring, sanitation and air conditioning ducts, with concrete being used only in the foundations and three inch deck floorings in the nut and bolt structure.

### 2) Modern scaffolding systems

Conventional/traditional scaffolding systems in India involved the use of materials like timber



and bamboo. However, in today's age, the bamboo is being replaced by steel pipes/props, and battens are being replaced by beams. Modern scaffolding systems provide qualitative consistency in construction and improved surface finish, thereby resulting in savings in time and plastering material. Traditional scaffolding systems are still used quite rampantly in India since modern scaffolding systems are more expensive.

### 3) Use of ferro-cement

Ferro-cement is a form of reinforced mortar, consisting of a layer of cement applied over layers of iron-based metals like chicken wire, expanded metal mesh and wires. This helps structures become crack, fire, and earthquake-resistant. The material is ideal for lightweight construction and is an affordable alternative for traditional methods. The maintenance costs associated with such structures are also found to be lower vis-à-vis pure steel constructions.

### 4) Silicon-translucent roofs

Silicon-based structures are increasingly being used in modern building techniques. Although it is largely still in experiment stage of experiment, a number of buildings in Korea have used silicon-coated fabric roofs in their homes. These roofs are translucent and light, and let in natural light. They also have acoustic properties. The roofs come with an outer skin and an inner blanket of insulation and provide 15 per cent light penetration. Interestingly, the cost associated with the use of the technique is similar to that of conventional roofs.

### 5) Advanced formwork systems and formwork materials

The conventional formwork system currently being used in India is the traditional timber slab formwork. These formworks involve a significant amount of labour hours cost. Modern formwork systems, however, requires lesser manpower and keeps costs in control. Accordingly, advanced formwork systems like slip forming, jump forming, self-climbing systems, tunnel forming, modular systems, fabric formwork, and sacrificial & collapsible formwork systems, etc., are gaining prominence. Although these systems are initially expensive, they are cost-effective in the medium-to-long term.

Likewise, the use of modern formwork materials like form liners, de-moulding agents, curing procedures, etc. should be explored.

### 6) Enabling & temporary works

Although these are not really modern advancements in the Western world, enabling & temporary works for buildings and structures, segmental bridges, precast pre-tensioned girders, balanced cantilever construction bridges should be used on a large scale.

### 7) Use of reinforced cement concrete (RCC)

This method involves strengthening concrete using fibre, steel plates and bars. The load-bearing capacity of RCC is much higher than that of normal concrete. It can withstand more compression using the tensile strength of steel. The presence of steel helps reduce the thermal expansion and contraction of structures. The use of lime helps create an alkaline environment after it is mixed with water, helping make the structure corrosion resistant and thereby increasing the life of the building manifold.

### 8) Advanced concrete solutions

Fair-faced concrete is a concrete surface which, on completion of the forming process, requires no further (concrete) treatment other than curing. Modern architecture involves the extensive use of fair-faced concrete. Unlike the past, where it was used only for larger prestigious buildings,

mainly because of its load-bearing properties and unequalled cost/performance ratio, in recent years its use has seen an upward trend because of the design versatility and the variety of finishes that it offers. Likewise, various techniques in terms of its use, effects of different types of shuttering materials and cement, effect of de-moulding agents, and curing procedures should be explored by construction companies.

Construction companies should make use of self-healing concrete, for protection against corrosion. The use of self-cleaning concrete to make structures which will need lower maintenance.

## 9) Lift slab construction

This method involves constructing and placing several slabs one over the other and lifting them up after casting, using jacks. The structure is built at the ground level using a separating medium in between. Though this patented technology was designed in 1950s, it is still in the experiment stage in India. The casting for this form is done in-situ, hence, the construction process is faster as major part of the work is done at the ground level without having the need to transport material, thereby saving money and manpower.

## 10) Cavity wall construction

This form of construction is used to build structures in hot areas. This form of construction provides good insulation against heat, and can be used in air-conditioned buildings and other commercial constructions. It involves leaving a measured air cavity within the wall between masonry leaves. The leaves are tied with brick, concrete wall or metal tiers. This method helps reduce cooling requirements.

## 11) Use of unconventional material for construction of roads & highways

Indian roads are subjected to extreme changes in weather conditions like heat and rain. As a result, the bitumen which is used as a binder for construction of roads in India loses its adhesive character, resulting in cracks and potholes. The use of modified bitumen, which combines the use of natural asphalt and waste materials like rubber, plastic polymer, etc., should be explored to strengthen the roads. The use of waste can help in more efficient disposal of waste as well.

## 12) Modern infrastructure machinery

Construction companies should make extensive use of modern construction equipment and machinery like lifting bars, advanced cranes, trailers, launching girders, equipment for production and transportation of concrete, equipment for foundation construction, equipment for placing and finishing concrete, etc. There is also need to focus on other advanced infrastructure-related equipment like advanced jet-pump based dredging equipment, tunnel-digging machinery, unmanned oil rigs and offshore oil platforms, robotic drilling systems, and roofbolters and shuttle cars for use in mines, among others.

A good example of extensive use of modern machinery in India is the Delhi Metro project. As per media reports, phase-III of the Delhi Metro project, which will add about 140 km to the existing network, involves the deployment of 19 tunnel boring machines (TBMs) working simultaneously. The use of about 33 tunnelling drives has also been initiated for the project. According to the Delhi Metro Rail Corporation, this is one of the largest tunnelling projects ever undertaken below any major urban centre, globally.

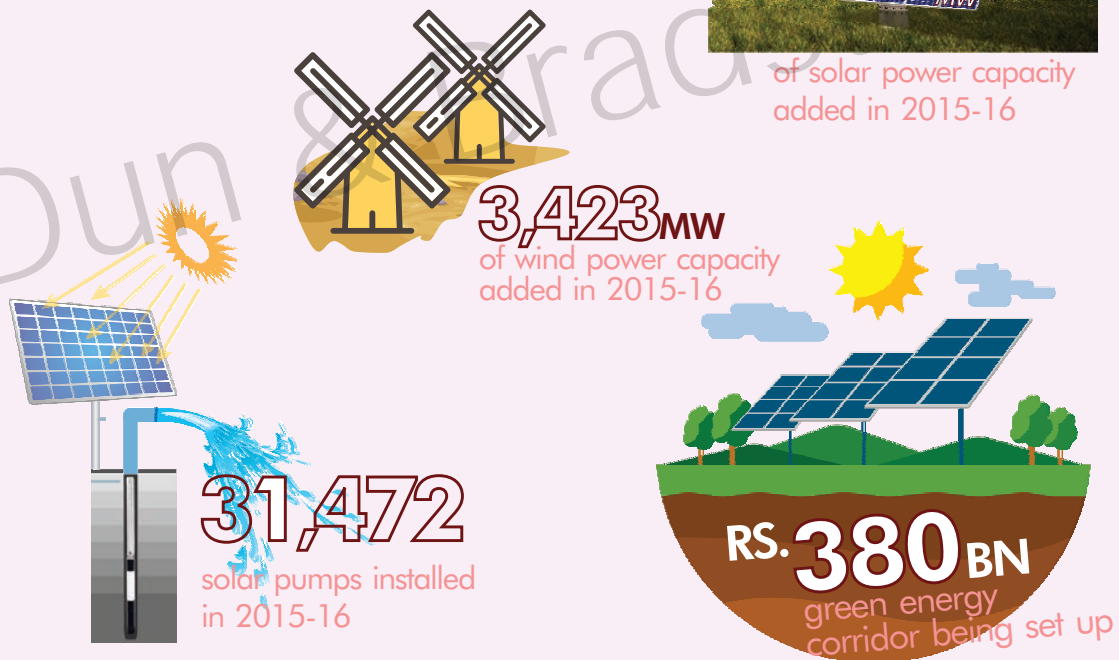
## 13) Robotic systems for civil construction

Robotic systems can be used for precise inspection and maintenance of civil infrastructure. To reach higher locations, these robots will require adhesion as well as locomotion mechanisms. Robotic systems can also be used for cleaning and maintenance of structures.

## GREENER: CLEAN & GREEN ENERGY

India with a population of close to 1.3 bn people is growing at a fast pace. Being the seventh largest economy in the world in terms of nominal GDP, India will need energy to achieve its development ambitions and catapult its growth. Despite having an installed capacity exceeding power demand, some parts of the country face acute power shortages. The critical reasons are – coal supply shortages, high level of transmission and distribution losses, and poor financial health of utilities. These problems inevitably hamper the efficient use of the existing system to meet the demand. As per the Ministry of New and Renewable Energy, India has huge potential for renewable energy from various sources such as solar, wind, biomass, small hydro, cogeneration from sugar-mill bagasse, and through conversion of waste to energy.

### Renewable Energy: The Future of New India- 2016 Achievements



Source: Ministry of New and Renewable Energy

To give a perspective on the potential of solar energy in meeting India's energy requirement, it would be interesting to note that a country like Germany, which does not get too much sunlight, has an installed capacity of over 40 GW for solar energy. Germany has set itself a goal of producing 35% of its electricity from renewable sources by 2020 and to further meet all its energy needs through renewable energy sources by the year 2050. What is commendable is that Germany is able to generate solar power by enlisting the support of individuals through the setting up of solar panels and by encouraging power

companies to buy the generated solar power from individuals at a fixed price. This endeavor required strong regulations and public support, which Germany was able to secure. If a country like Germany is able to harvest solar energy, then a country like India could do much more.

With respect to wind power, India is better placed in the global context. As per data furnished by the Global Wind Energy Council, India's global rank with respect to installed wind power capacity improved to 4th as at the end of 2015 from 5th a year ago. India's total installed wind power capacity as at the end of calendar year 2015 stood at 25.1 GW, about 11.5% higher than in 2014. India's wind power capacity stood at 5.8% of the global capacity of 432.9 GW. As per estimates, the level of technology currently available, gives India the on-shore potential for wind power generation of around 65 GW. India also is blessed with a 7,517 km long coastline, and its territorial waters extend up to 12 nautical miles into the sea which gives India tremendous opportunities for off-shore wind energy resources. The biggest visible hurdle for India is the high cost associated with generation and the storage of renewable energy vis-à-vis thermal and hydro power.

### Global Installed Wind Power Capacity (GW)

Country	GW	% SHARE
People's Republic of China	145.4	33.6
USA	74.5	17.2
Germany	44.9	10.4
India	25.1	5.8
Spain	23	5.3
United Kingdom	13.6	3.1
Canada	11.2	2.6
France	10.4	2.4
Italy	8.9	2.1
Brazil	8.7	2
Rest of the World	67.2	15.5
World Total	432.9	100

Source: Global Wind Energy Council, Dun & Bradstreet Research

### India's Demand for Renewable Energy

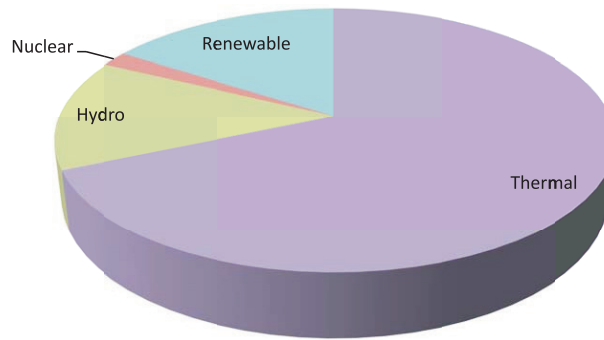
Noteworthy is the fact that the demand for energy is expected to grow by 95 percent by 2030 which is ~ 255,000 MW and approximately 295,000 MW at 9 percent growth during the period 2029-2030. Till date, India has been targeting large-scale conventional power capacities to meet its demand and has encountered limited success. Incidentally, India does not possess sufficient energy resources to cater to either the current or future requirement. Earlier, alternative sources of power sources were considered to be expensive. However, with solar and wind power becoming commercially viable in comparison to conventional sources (specially imported coal, and nuclear based generation), policy makers concerned with the technical, economic, and environmental are provided with additional choices. This is expected to enable them to clearly plan for future power systems that can keep pace with the economic growth as well as the demand.

### India's Supply of Renewable Energy

But still the question remains is what should we do become self-sufficient in-order to suffice our

demand and guarantee our economic growth. To become self-sufficient, our government has decided completely leverage the potential of renewable energy. To understand this better, let us see the current scenario in terms of the existing capacity and demand of energy in the country.

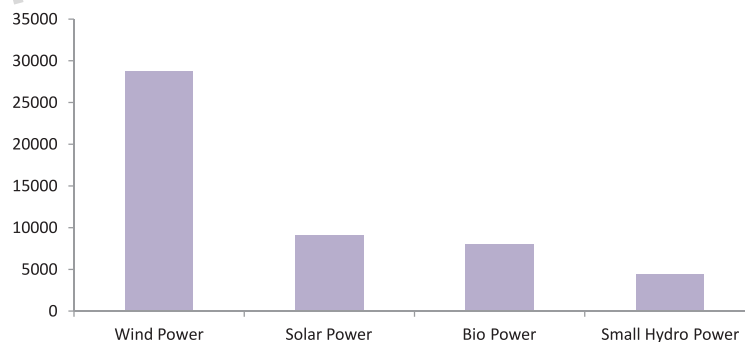
Installed Capacity as on December 2016



Source: 2017 Annual report, Ministry of New and Renewable Energy

As per the graph above, the total installed capacity of renewable energy in India is 14.8% of the total capacity of 310 GW. From the total renewable power installed capacity of 14,400 MW at the beginning of 2009, it has reached a capacity of 50,068 MW at the end of December 2016. Incidentally, Renewable energy has been witnessing over 20 percent growth in the last five years.

Sector-wise installed capacity of Energy as on December 2016 (in MW)



Source: Ministry of New and Renewable Energy

As per the figure above, within the renewable energy segment, Wind energy continues to dominate India's renewable energy industry, accounting for over 57.4% of installed capacity (28,700 MW), followed by solar power (9,013 MW), Bio-power (8,021 MW) and small Hydro power (4,334 MW).

## Potential of Renewable Energy in India

Now that we have an idea of the existing capacity, it would be good to understand the potential of renewable energy of India and why it is extremely important to increase our focus on Renewable energy.

According to a recent report published by Niti Ayog, recent estimates show that India's solar potential is greater than 750 GW and its announced wind potential is 302 GW (actual could be higher than 1000 GW). India Energy Security Scenarios 2047 show a possibility of achieving a high of 410 GW of wind and 479 GW of solar PV by 2047. The potential of biomass and small hydro is also significant. This clearly implies that renewable energy has the potential to strongly support the development of India's electricity sector. We all understand that tapping into the abundant indigenous renewable resources could curb our outflows for procuring expensive imported fuels. It is important to know that India's coal imports in 2014-15 were already at 212 million tonnes at over ₹ 1 lakh crore. Therefore, the government anticipates that reaching 175 GW RE by 2022 could dramatically reduce the coal import bill in 2022. Further, opting for renewable energy would also provide added benefits such as environmental benefits (less pollution), social benefits (local employment opportunities) and investment inflows.

## Targets Set by the Government

The break-up of the target set for 2022 by the government to achieve a cumulative of 175 GW of Renewable Energy is as follows:

- Solar (utility-scale, distributed, off-grid/mini-grid – 100 GW)
- Wind (utility-scale – 60 GW)
- Small hydro (5 GW)
- Bioenergy (10 GW)

Of the 100 GW target for solar, 40 GW is expected to be achieved through deployment of decentralized rooftop projects, 40 GW through utility-scale solar plants, and 20 GW through ultra-mega solar parks. For this purpose, in 2015, the Ministry of New and Renewable Energy (MNRE) had submitted proposals to the Expenditure Finance Committee (EFC), Government of India, for funds to support achievement of 100 GW solar by 2022. Proposed region-wise break of the targets are mentioned in the table below-

States/Uts	Solar Power (MW)	Wind (MW)	SHP (MW)	Biomass Power (MW)
Nothern Region	31,120	8,600 (only in Rajasthan)	2,450 (Max. from HP)	4,149 (max. from UP)
Western Region	28,410	22,600 (Gujarat, MP & Maharashtra)	125	2,875
Southern Region	26,531	28,200 (TN, AP, Karnataka)	1,675 (Karnataka)	2,612 (Karnataka)
Eastern Region	12,237	0	135	244
North- Eastern Region	1205		615 (Arunachal Pradesh)	
Total	99,533	60,000	5,000	10,000

Source: Ministry of New and Renewable Energy

Although the target seems massive, the fact that several states have already witnessed the launch of net metering in the country for rooftop solar power generation offers some sense of feasibility. Confident of the growth rate in clean energy, the Government of India in its submission to the United Nations Framework Convention on Climate Change on Intended Nationally Determined Contribution (INDC)

has made a statement that India will achieve 40% cumulative Electric power capacity from non-fossil fuel based energy resources by 2030 with the help of transfer of technology and low cost international finance.

## Advantages

India seems to be seriously focusing on renewable energy due to various factors. These projects can be executed within a three year period from conceptualization in comparison to the 10 years required for conventional power projects. Incidentally, solar PV projects can be deployed within a years' time. Renewable energy can also provide access to affordable energy solutions to the India's off-the grid population. This has the potential to create employment for local as well as unskilled labour. However, the most striking advantage of renewable energy is reducing the dependency on imported fossil-fuels and their volatile prices. This in turn is expected to result no fuel costs and negligible impact on the quality of the surrounding environment. Further, electricity generated from renewable resources is cheaper than most conventional sources such as gas, diesel, nuclear and also coal. As a matter of fact, PV module prices have fallen 80% since 2008 and by 12% in 2012 alone. Wind turbine prices have fallen 29% since 2008. There are various renewable energy components which are much cheaper as compared to the components for the conventional energy components clearly indicating the cost advantage in project set-up for renewable energy. On the upside, over the past decade, the costs for generating renewable energy have steeply fallen. Further, post completion of the project, the costs are not likely to rise for at least 25 years which is ideally the life of the asset.

## Challenges

Things really look lucrative for renewable energy but it is imperative to look at challenges that India as a country faces. Some of them are very well highlighted in a report developed by Niti Ayog which clearly states that India lacks a comprehensive national policy and legislative framework for renewable energy. Existing policies and programme are technology-specific and vary across states restricting strategic intent. Second, there is an acute shortage of willing and credit-worthy buyers of RE-based electricity. Most of our financially distressed power distribution companies (Discoms), also the bulk purchasers of power, have held back from buying expensive power (whether conventional or renewable-based) thus confining power markets. Market risks, clubbed with other economic factors, have led to high interest rates in Indian financial markets, around 10% - 14% per annum, almost three times higher than in developed economies. These high rates impact RE more than other conventional power or infrastructure. The lack of financing for RE projects is also a result of risks at multiple stages, for example buyers not paying or grid operators backing-down operations, which results in reduced investors' interest. Third major factor, also adding to the risks, is – unplanned and non-facilitated project development environment. Finally, inadequate and outdated grid infrastructure and operations have affected not just the renewable energy sector but the overall power reliability. Therefore in order to place renewable energy at the center of India's power system, a paradigm shift in planning and governance practices is imperative \*Note: Report of Expert Group on 175 GW RE by 2022 by Niti Aayog.

For India to focus more on renewable energy, some tangible and concrete steps need to be taken. Firstly, India will need to make available the necessary capital, and understand and manage the variability and uncertainty of Renewable Energy generation in conjunction with the existing and planned fossil fuel-based and large power plants. India will also have to be prepared for the financing challenge

for the upliftment of the sector. According to the estimates provided by the Planning commission, infrastructure development under the 12th Five Year Plan would require more than a trillion US Dollars. With renewable energy development under consideration, this figure could further enhance.

The good news is, India has started taking steps towards creating a conducive business environment. Among the others, the two that stand out include:

- A large domestic manufacturing base has been established in the country for renewable energy systems and products. Companies investing in these technologies are eligible for fiscal incentives, tax holidays and accelerated depreciation apart from the remunerative returns for the power fed into the grid.
- The government is encouraging foreign investors to set up renewable power projects with 100 percent foreign direct investment.

Dun & Bradstreet



# SMARTER: BUILDING NEXT-GENERATION CITIES

Urbanisation refers to a gradual increase in the proportion of people living in urban areas. It essentially involves the shift of population from rural to urban areas. Urbanisation accompanies economic development and is a global phenomenon. Data furnished by the United Nations (UN) shows that India and China together account for about 30% of the world's urban population. As per estimates, the world's urban population will jump to twice its current size by the year 2050.

With about 31% of its population living in urban areas, India is currently at a point of transition where the pace of urbanisation will speed up very soon. Hence, it is crucial for India to plan and develop its urban areas better to support the impending urbanisation. The urban areas need to be able to support the migrant population with good quality housing, cost-efficient physical and social infrastructure, water, sanitation, electricity, education, health care, security, and entertainment & recreation, among other necessities. Urban areas currently contribute to about 60% of India's GDP, and are projected to contribute to more than 70% of the national GDP in the next 15 years. Accordingly, the Government of India has rightly decided to develop 100 Smart Cities in the country and modern satellite towns around the existing cities.

The list of 100 proposed smart cities was prepared by the government in such a way that each state/union territory had at least one smart city. The selection process involved the Ministry of Urban Development (MoUD) asking all state governments to shortlist their potential smart cities and to submit their proposals for the development of those cities. The smart cities were then selected based on the evaluation of those proposals. Cities that missed out on selection were encouraged to revise their proposals and to participate in subsequent rounds, indicating that there is scope for more cities to be developed as smart cities.

### Essentials of a Smart City

Smart Cities can be defined as those which have intelligently developed an efficient physical, social, institutional and economic infrastructure. The Government of India has defined a smart city in the Indian context as a city that provides a decent quality of life to its citizens, a clean and sustainable environment, and supports the application of 'smart' solutions.

Housing is an important aspect of any city, and the government has recognised this as a focus area in its smart cities programme. Many cities in India already have a high population density, which gives rise to concerns regarding the ability of such cities to absorb migrants. Knowing the burden that migration can impose on city resources, it is very important for smart cities to be planned in a way that they can expand vertically. Redevelopment of old properties and development of satellite cities can help manage this impending situation. Most importantly, the government must also step in to ensure that the housing facilities are affordable and inclusive.

Another problem that exists in most cities is that the reach and accessibility of administrative services is limited. As a result, people are forced to make use of vehicles to avail of such services. This gives rise to potentially high levels of traffic congestion, air pollution and resource depletion (fuel, water, etc.). If,

# Infra Next: Faster, Greener, Smarter

on the other hand, administrative services are offered within walking or cycling distance, it could go a long way in improving the quality of life. The government's smart cities programme has specified this as a focus area as well.

The government has also dwelt on the paucity of open spaces, like playgrounds, parks and other recreational spaces in cities. Smart cities are being envisioned to be developed in a way so as to encourage the preservation and development of such open spaces and also to reduce urban heat and promote eco-balance.

Smart cities will have efficient and citizen-friendly e-governance portals. These portals will foster accountability and transparency and reduce the need of citizens to actually visit government offices to get work done.

The government has also stressed on the importance of developing and/or maintaining a city's identity based on its main economic activity. The identity could be based on local cuisine, health, education, arts & crafts, culture, textiles, industries, and other aspects.

The government's smart cities programme has dwelt on the importance of disaster management systems. It also deals with telecom enablers of smart cities like efficient and improved density of telecom networks involving the use of cable, satellite, RF mesh, microwave telecommunication, fiber optic networks, WiFi, etc., cloud computing frameworks, internet of things and IPv6, sensor networks to monitor conditions like temperature, sound, vibration, pressure, motion, pollution, intelligent power grids water and gas networks, and more. The programme also focusses on the expansion in the utility of mobile broadband so as to transform the mobile phone from a mere communication device to an instrument of empowerment that can receive alerts and notifications and are also equipped with GPS, a microphone, gyroscope, light sensors, cameras, accelerometers, barometers, thermometers, magnetometers and hygrometers. Mobile phone companies these days are looking at new ways to integrate devices in other aspects of life. For instance, wearable smart devices are being developed to monitor blood pressure, etc.

The government has attempted to list down the core infrastructure elements in a smart city. These are:-

- Adequate water supply
- Assured electricity supply
- Efficient sanitation, including solid waste management
- Efficient urban mobility and public transport
- Affordable housing, especially for the poor
- Robust IT connectivity and digitalisation
- Good governance, especially e-Governance and citizen participation



- Sustainable environment
- Safety and security of citizens, particularly of women, children and the elderly; and
- Health & education

Apart from the core infrastructure elements listed above, smart cities should also support smart solutions. These smart solutions are designed to enhance the quality of life by enabling local area development and with the help of technology. Accordingly, the list of smart solutions that smart cities are expected to support includes:-

- **E-Governance and Citizen Services**
  - Portals/forums for public information and grievance redressal
  - Electronic service delivery systems
  - Engagement with citizens through e-governance portals
  - Citizen Vigilance System – Citizens playing the role of the city's eyes and ears
  - Video Crime Monitoring
- **Waste Management System**
  - Conversion of waste to energy and fuel
  - Conversion of waste to compost
  - Treatment of waste water and sewage
  - Recycling and reduction of construction & demolition waste
- **Water Management**
  - Use of Smart Meters and other tools for optimum utilisation of water
  - Systems to identify leakages and to conduct preventive maintenance
  - Systems to monitor the quality of water
- **Energy Management**
  - Use of Smart Meters and other tools for optimum utilisation of energy
  - Dependence on, and gradual shift towards renewable sources of energy
  - Development/redevelopment/retrofitting of buildings so as to make them energy-efficient and green
- **Urban Mobility**
  - Smart parking systems at various locations
  - Intelligent traffic management systems
  - Integrated multi-modal transport systems
- **Others**
  - Tele-medicine and Tele-education systems
  - Incubation/trade facilitation centers
  - Skill development centers

## Financing of the Plan

The Smart City Mission will be operated as a Centrally Sponsored Scheme, and the Central Government proposes to give financial support to the Mission to the extent of ₹ 480 bn over a period of five years, which translates into an average of ₹ 1 bn per city per year. An equal amount, on a matching basis, will

have to be contributed by the state/urban local bodies. Therefore, nearly ₹ 1 trillion of government/urban local body funds will be available.

### **Moving Forward**

Proper implementation of the Smart Cities program would ensure the leveraging of technology to improve the quality of life. However, the benefits of smart cities need to be all-pervasive and available to masses. Better planning and provision of basic requirements in these smart cities is also important. Easy access to water and power are absolutely critical. Construction of earthquake-resistant buildings, efficient drainage and waste disposal/management systems, local security, surveillance and vigilance systems are also important. Focusing on renewable energy will also help reduce the strain on our resources and hold the nation in good stead. Without focusing on these bare necessities, the smart cities programme will not provide the desired impact. The smart cities programme offers endless opportunities to infrastructure companies, not just for business, but also in terms of actively participating in propelling the nation towards rapid growth.

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# **RAPID CONSTRUCTION** **FOR RAPID METRO**

55,143 SQ. FT. PROJECT BUILT IN 9 MONTHS!

Everest is one of India's fastest growing complete building solutions companies. The Pre-Engineered Buildings division of the company has successfully delivered more than 2000 PEB projects in the last 5 years, for large as well as mid-scale manufacturing and infrastructure companies. Today Everest ships out one Pre-Engineered Building every day from its manufacturing facilities in Dahej and Bhagwanpur. Continuing its commitment to deliver Speed, Strength and Safety, Everest has recently delivered a PEB structure in Gurugram - workshop cum bay area for Gurugram Rapid Metro. Once again, Everest's efficient planning and execution helped avoid cost overruns and unnecessary delays, and the project was completed within the promised time frame.

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**Rapid Metro, Gurugram (Haryana)**



## THE CHALLENGE

Construction was taking place amidst busy city environment.  
The construction had to be quick to ensure minimal disturbance to commuters and residents.  
The steel building was to be erected on top of an RCC building, which was over 8 metres high.

## THE SOLUTION

The project was divided into phases, each with an individual timeline for timely completion.  
Special permission was taken for use of aerial cranes.  
World-class materials were used to ensure a long-lasting, sturdy structure.  
The highest levels of safety standards were followed.

## RESULT

A 55,143 sq. ft. of floor area constructed in just 9 months.  
A first-of-its-kind structure using aerial cranes within city limits.





# Corporate Publications



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# INTERVIEWS



## Rural Electrification Corporation Limited

Dr PV Ramesh IAS, Chairman & Managing Director

**Q. How has been REC's financial performance during FY17? Kindly throw some light on the transmission and distribution projects financed by REC during the last financial year.**

- A. The Company has exhibited a robust and phenomenal financial and operational performance during FY 2016-17, exceeding all the performance benchmarks. The Company's sanctions for the FY 2016-17 grew by 28% to ₹ 838.7 bn and the disbursements grew by 26% to reach ₹ 580.4 bn. The Company had a loan book of ₹ 2,019.3 bn at the end of FY 2016-17. The outstanding borrowings stood at ₹ 1,675.2 bn with a Net Worth of ₹ 333.3 bn. The Profits of the Company were all time high with Profit before Tax and Profit after Tax being ₹ 88.6 bn and ₹ 62.5 bn respectively during the year.

The Company also enjoys Capital Adequacy ratio of 21.18% as at end of FY 2016-17 against the minimum 15% stipulated by RBI. The Company duly rewarded its shareholders with a 1:1 bonus during the year and declared the highest ever dividend of ₹ 9.65 per equity share, post bonus issue.

REC continued to support development of the Transmission and Distribution (T&D) Sector by providing financial assistance of nearly ₹ 410 bn (with approx. ₹ 210 bn for the Transmission sector and ₹ 190 bn for Distribution sector) for projects across the country

**Q. The number of renewable energy projects that are being executed has risen in last few years. According to you, how long will India take to switch over completely to green energy? What more initiative you think Government should take to further promote green energy?**

- A. The GoI with its policy interventions and enabling regulations has put the country in the fast growing path to increase its share of renewable capacity and we are well poised to achieve our commitments to the Climate change protocol.

The country is capable of switching over completely to renewables. However, more than capability and ability, switching over completely to renewable energy will require a more pragmatic approach to optimal utilization of existing resources by way of the thermal and other generating plants. Lot will also depend on load demand at various times of the day, and ability of renewables to fully meet them. Much will also depend on how fast and economical the storage solutions develop.

Government however needs to strengthen the contracts system to prevent reopening of PPAs and make utilities adhere to signed contracts. Further, we need to jointly, along with the stakeholders, address quality issues and standardize material quality and help to create more robust institutional mechanism for ensuring reliability of plants.

**Q. How well is REC poised to grab opportunity presented by India's rising renewable energy sector? Kindly share some details on the renewable energy projects financed by REC.**

- A. REC has dynamically adapted itself to keep pace with the sector and its ever changing requirements. Continuous policy changes and quick reactions to market needs is what REC is doing to keep pace. REC is financing all major developers in both solar and wind sector who have won projects bid out by both Central and State Governments. REC is also partnering in funding projects being taken up by progressive state governments like AP for waste to energy projects etc. We are in close touch with the industry to keep abreast of developments and designing products to suit their needs.

**Q. How prepared is Indian power sector to deliver on Saubhagya program announced by Honorable Prime Minister?**

- A. REC is the Nodal agency on behalf of the Government of India for monitoring the implementation of the ambitious Saubhagya Scheme for electrification for more than 40 million un-electrified Households in the country by December 2018 leading to 100% Household electrification.

REC intends to leverage and further strengthened the institutional framework setup for the village electrification programme under DDUGJY for implementation of Saubhagya scheme. A dedicated Project Monitoring Unit (PMU) has been created to monitor the works. REC is working in close coordination with the Government of India, State Governments, State Utilities and the other stakeholders down to the district and village level for completion of Household surveys in the states, preparation of DPRs. A dedicated web portal and mobile app is being developed to ensure proper monitoring and transparency for Saubhagya. An active outreach programme has been designed to communicate the benefits of the scheme and to create awareness amongst the Households.

**Q. According to you is UDAY scheme having its desired impact on the Power Discoms? How has it benefited REC?**

- A. Distribution is the cash cow of the entire power sector. A healthy distribution sector also means a robust power sector which in turn means more business for companies like REC.

UDAY has made significant impact on the health of Power DISCOMs. Due to the financial re-engineering, the DISCOMs have been relieved of their legacy burden and can now look forward to taking up the rebuilding process without having much concern for the past baggage. The positive signs already being noticed are reduction in AT&C losses, improvement in billing efficiency, reduction in power purchase cost in 6 states, reduction in gap between Average Cost of Supply (ACS) and Average Revenue Realized (ARR) in 12 states and an all India growth in Energy supply by 4%. The pace of reform is expected to hasten up in the coming years.

UDAY has benefitted banks and other lenders. The environment of stress in these companies have been taken care of. Distribution companies are now looking to complete village & household electrification, where the gap funding over and above grant from the central Government would largely be funded by REC. The UDAY improvements also envisage installation of meters, strengthening of distribution network, feeder segregation, etc., which is expected to provide good business opportunities to REC.

**Q. What impact do you see GST is having on the Indian Power sector companies?**

- A. While the distribution of electricity and financing revenue (interest) continue to remain outside the purview of GST, taxation on most of the capital equipment has gone up, which would lead to increase in the input cost for Discoms, Transcos and Gencos, resulting in higher cost of electricity purchase by State Utilities.

**Q. What is your outlook on the Indian power sector?**

- A. The outlook for power sector in India appears to be very positive. With likelihood of enormous capital expenditure and development of equally huge operational infrastructure, REC is looking at an optimistic business scenario in the near future as well as in the longer-term. The Government's proactive push to address and resolve the sector's bottlenecks is strengthening this promising outlook. REC is well equipped to meet the market's demands and is well poised to play a vibrant role in the economic development of the country.

The power demand is expected to grow with 7% CAGR in next 5 years as per CEA. The growth will be pursued through diversification. The new areas of financing to be explored – Solar pumps, equipment manufacturing, energy efficiency schemes, power plan renovation, Smart Metering, Smart Grid etc. with a special focus on Renewables.



## Embassy Industrial Parks Private Limited

Anshul Singhal, CEO & Director

### Q. Kindly give us the details of operations of Embassy Industrial Parks.

A. Embassy Industrial Parks was formed to address the challenges of companies grappling with the building and management of industrial and warehousing spaces in a large, diverse and geographically distributed market like India. Embassy is committed to bringing quality Grade A, industrial, light manufacturing and warehousing spaces in close proximity to leading consumer and industrial centres across India. Built on land parcels between 50-200 acres near 7 key cities – Ahmedabad, Bangalore, Chennai, Delhi NCR, Hyderabad, Mumbai and Pune, these parks will be fully master planned to specifically cater to industrial and logistic traffic movement. They will boast of a host of special amenities such as truck parking, canteens, rest areas, dormitories, business centres etc. ensuring that each park becomes a self-sustaining business environment.

### Q. Which are the key industrial segments do you cater to?

A. The Embassy Industrial Parks team leverages its national reach. They partner with local landowners to help manage local and historical land related issues all over the country hence we cater to a national client base with complete effectiveness. These modern, well planned, technology-enabled industrial and warehousing spaces are targeted at industry verticals like 3PL, e-Commerce, Automobile Ancillaries, FMCG and Retail. We help international and multi-national clients with specific mandates to search for land in pre-defined areas, acquire land on their behalf and then proceed to develop a complete campus or a "build to suit" facility. For industries wishing to expand their operations while limiting their up-front capital expenditure, we offer a complete build to suit space to augment existing operations. This expansion is limited to building and fit-outs in return for a rental, which will be on a long term, flexible lease basis.

### Q. Kindly highlight the key achievements of your company in the last 5 years.

A. Embassy Industrial Parks, a joint venture between Embassy Group and Warburg Pincus represents a synergistic relationship that brings deep experience and expertise to companies that are wrestling with the logistics and warehousing challenges. The company was formed in 2014 under the leadership of CEO, Anshul Singhal. The authentic approach of this business ensures that they are successful before others. The team behind Embassy Industrial Parks has the capability of buying land, constructing and leasing it. In a short span of time, they have acquired approximately 370 acres of land located across Chennai, Pune and Delhi/ NCR with a total built up potential of 8 million sq. ft. Their first project is Chakan, Pune. Construction of the building has commenced with the first building to be handed over by the end of the year. There is already a pre-commitment of 1million sq. ft. in this project. Besides this EIP has already signed land deals in Delhi & Mumbai.

### Q. What is the company's expansion strategy, both in the short term as well as the long term?

A. The future of Industrial real estate in India is very bright. It is already being termed as the future of India real estate. Warehousing and Industrial logistical requirements are growing and this growth is here to stay. Indian consumers are demanding better quality and smarter spaces which are not just comparable but higher than international standards. The biggest indicator of its future is that the government of India plans to build multimodal logistic parks across the country with an investment of INR 33,000 crore in a bid to bring down costs incurred in logistics, it will also lower the overall freight cost, reduce vehicular pollution and congestion and will enable reduction of warehousing costs of the country. Embassy Industrial Parks aims to build 20 million sq. ft. of industrial and warehousing space over the next 5 years across India. We have already signed lands at various stages of acquisition in Chennai, Delhi, Pune, Mumbai & NCR and we are actively working to acquire lands in Gujarat and Kolkata.



## VA Tech WABAG Limited

Rajiv Mittal, MD & Group CEO

### Q. Kindly give us the details of operations of VA Tech WABAG

A. WABAG is a pure play water technology Indian multinational headquartered in Chennai, India and present across 4 continents and over 20 countries. With a robust performance on all the key parameters including the top line, bottom line, margins, order wins, WABAG meets the requirements of clients globally. For the year 2016-17, the top line stood at ₹ 32.1 bn and the EBITDA rose to ₹ 3 bn. The PAT stood at ₹ 1.02 bn. The company achieved an order intake of over ₹ 36 bn and its backlog stands at around ₹ 82 bn.

### Q. Which are the key projects executed by your company in the last 5 years?

- A. In the municipal sector,
1. 100 MLD Nemmeli Desalination Plant, Chennai
  2. 220 MLD Water Treatment Plant at Dwarka, New Delhi
  3. 91 MLD Wastewater Treatment Plant at Pappankalan, New Dehi and In the industrial sector,
  4. 50 MLD UF RO Plant for Reliance Industries, Dahej, Gujarat
  5. 54 MLD Effluent Treatment & Recycling Plant at IOCL Paradip

### Q. What is your opinion on the impact of the GST on the Indian infrastructure sector?

A. The dichotomy in the indirect tax laws relevant to infrastructure in the pre GST regime has ended with the introduction of GST. This brings predictability and efficiency to the sector. Thus Contractors and Suppliers can look forward towards a simpler and efficient Indirect Tax regime. Implementation of GST would also bring about a reduction / end in the ever contentious issues at the Central and State levels on classification of contracts, valuation, jurisdiction and other such issues. GST also makes tax compliance easier by eliminating multiple taxes and compliances. Withdrawal of exemption of taxes on water supply and sewerage projects sponsored by Government and Local authorities will increase government spending.

### Q. What is the company's expansion strategy, both in the short term as well as the long term?

A. As a strategy, we have always focused on emerging markets which face numerous water and wastewater related challenges. Solutions to these challenges have been the company's focus, improving the infrastructure and coming up with alternative sources to support economic development. We see huge opportunities in India under our Hon'ble PM's flagship programs: Namami Gange, AMRUT, Smart Cities Mission & Swachh Bharat.

The key to our growth and success has been our focus on aligning our core competencies with the evolving requirements of the markets where we operate in:

1. **Stabilizing cluster-based model** with a view to enhance regional focus; reduce redundancies and enhances competitiveness within the organization.
2. **Enhancing resource capability** – We are an asset light company with human capital being our biggest asset. We focus on enhancing their skills, creating management bandwidth, imbibing common cultural values among the diversified global team.
3. **Technologically competitive** to provide value addition to our customers by providing advanced technologies at an affordable cost;
4. **Life cycle partners** to clients – Design, procurement, execution to reliable Operations & Maintenance services.



## Kirby Building Systems India Private Limited

D Raju, Managing Director

### Q. Kindly give us a brief on the operations of Kirby Building Systems.

- A. Kirby Building Systems is one of the world's largest producers of quality steel buildings and has been operational since 1976. The company pioneered the Pre-Engineered Steel Buildings (PEB) concept in India in the year 1999 and has been the market leader in the Indian PEB industry. Kirby India is specialized in completing many large and complex projects across diverse applications such as Factories, Warehouses, Cold Storages, Showrooms, Workshops, Offices, Supermarkets, Shopping Malls, High Rise Buildings - Commercial & Residential, Shipyards, Metro Stations, Aircraft Hangars, Sports Stadiums, Auditorium, Power Plants, Steel Plants, Heavy Industrial Structures, etc. spread over different industries.

Kirby India is into design, fabrication, supply and installation of PEB or steel structures and has been evolving over the last 17+ years and continues to do so. The company has also created many benchmarks for the industry in the earlier years and has established standard set of practices to be followed for any type of steel building to be setup right from pre-sales, engineering, fabrication, supply, installation, and after sales service.

### Q. Kindly share with the details of key projects executed by your company in last 5 years.

- A. The company has the privilege of partnering most of the leading corporates across all industries by setting up their facilities. We have executed the World's largest PEB at a single location spanning over 300,000 sqm of area & involving 23,000 MT of steel for Renault-Nissan near Chennai. Dr. Reddy's, Cipla Ltd, JSW Steel Ltd, Meenakshi Energy, Apollo Tyres, MRF Ltd, Skipper Electricals, ITC Ltd, L&T, IMTMA, Flash Electronics, Mankind Pharma, Indospace Logistics, Unicharm, Royal Enfield, Alstom Bharat Forge, BASF Catalysts, Toshiba Power Systems, Cargill India, Phoenix Developers, Hyderabad Metro, Bangalore Metro, Mahindra & Mahindra, Danieli India, etc. are some of the clientele for whom we have completed the projects in last five years. Apart from these, there are many other projects that are in different stages of project cycle across India.

### Q. How is the market for PEB in India? What opportunities do you see for PEB in the coming years? How well is your company poised to tap in to these opportunities?

- A. PEB industry has grown leaps & bounds over the last two decades but it is yet to achieve its true potential which is still far but completely achievable as the industry consisting of top 4-6 organized players is maturing to take it to the next level of growth trajectory. The industry is overcoming many challenges by continuous knowledge sharing across seminars, conference, industry forums, colleges, education curriculum, etc. to the target audience thereby increasing the popularity. Thus, a huge opportunity awaits this industry especially in segments such as high rises, power, steel, etc. besides regular industrial infrastructure and this growth story is poised to continue in coming years.

Kirby India has already executed many high rise buildings and is currently executing G+23 & G+17 commercial buildings. This will definitely lead to increase in demand for steel structures for high rises in coming years and Kirby India being a leader will continue to achieve excellence and create new benchmarks for the industry as a whole.



## Indraprastha Gas Limited

ES Ranganathan, Managing Director

### Q. Kindly give us a brief profile of your company and its journey since inception.

- A. Since its incorporation in 1998, the growth of IGL has been driven by its mandate to provide clean fuels – CNG & PNG to the inhabitants of the region. Today, we are fuelling nearly a million vehicles in the region through 425 CNG stations, which makes us the largest CNG distribution company in the country. Our pipeline network is spread over 11,000 kms across Delhi, Noida, Greater Noida, Ghaziabad and Rewari through which natural gas is being supplied to over 8,00,000 households and over 3000 industrial and commercial establishments. We would be starting our operations in a part of Gurugram and in Karnal shortly.

The rapid expansion of CNG & PNG infrastructure across the length and breadth of the region by IGL leading to its easy availability has majorly contributed to the adoption of CNG across the vehicle segments and PNG being considered as the preferred cooking fuel in kitchens. Increasing environmental concerns and favourable cost economics are also aiding increased usage of natural gas among industries of the region to run a variety of applications for heating and power generation.

### Q. How do you expect the CNG and PNG segments to fare individually over the next five years?

- A. We are expecting to maintain our double digit growth for the next 2-3 years as well. Around 9 – 10% growth is expected in CNG segment, which would be driven by increased conversion of private cars to CNG mode and addition to the fleet of public transport buses announced by Delhi government. In the domestic PNG segment, 10-12% growth in volumes is expected during this period, based on the number of PNG connections being added every year. Driven by the judicial push due to environmental concerns, we expect our growth in industrial and commercial segment to be touching 10% over the next couple of years.

### Q. What impact do you feel GST is having on the Oil & Gas segment?

- A. Under the previous indirect tax regime, IGL was entitled to avail input credits against excise duty and service tax paid on certain goods and services purchased. Since Natural Gas has been kept outside the ambit of GST, such input tax credits which were earlier available, have been discontinued now leading to additional costs. In addition, GST has become applicable on transportation charges of input natural gas being purchased post 30th June 2017, which was not the case earlier. For the state of UP, there is an additional cost implication due to applicability of amended UP State VAT Act on purchases of natural gas within the state. IGL has passed on the overall impact to its customers.

### Q. How, in your opinion, is India currently placed in terms of its infrastructure development? What are the most crucial factors that can help India rapidly improve its infrastructure?

- A. On the energy front, the government has already clarified its intent to make efforts towards increasing the current 7% share of natural gas to 15% in the overall fuel basket of the country. The move towards becoming a gas based economy can be seen from the push being given to developing a national gas grid by connecting all left out areas of the country through Project Urja Ganga. Over 200 cities have already been identified for rolling out City Gas Distribution (CGD) projects, with all respective state governments wanting speedy roll out of CNG and PNG in their states. An action plan of taking the number of PNG connections in the country to one crore in the next three years is already being implemented in a mission mode. In a step towards making vehicles run on clean fuels, Euro VI standards are set to be rolled out soon in the country. CNG run vehicles would provide the most cost effective medium of adhering to Euro VI norms thereby paving way for acceptance of CNG across the all vehicle segments and geographies.

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# India's Leading Infrastructure Companies 2017

Sr No	Company Name	Sector
1	Aban Offshore Limited	Oil & Gas
2	Adani Ports and Special Economic Zone Limited	Ports
3	Adani Power Limited	Power
4	Afcons Infrastructure Limited	Construction
5	Ashoka Buildcon Limited	Construction
6	Atlanta Limited	Construction
7	BGR Energy Systems Limited	Construction
8	B.L. Kashyap and Sons Limited	Construction
9	BS Limited	Construction
10	Bharat Petroleum Corporation Limited	Oil & Gas
11	Bharti Infratel Limited	Telecom
12	Brahmaputra Infrastructure Limited	Construction
13	C&C Constructions Limited	Construction
14	CESC Limited	Power
15	Chennai Petroleum Corporation Limited	Oil & Gas
16	Consolidated Construction Consortium Limited	Construction
17	Deendayal Port Trust	Ports
18	Dilip Buildcon Limited	Construction
19	Dredging Corporation of India Limited	Construction
20	Engineers India Limited	Construction
21	Everest Industries Limited	Construction
22	Fourth Partner Energy Private Limited	Construction
23	GAIL (India) Limited	Oil & Gas
24	GMR Infrastructure Limited	Construction
25	GPT Infraprojects Limited	Construction



**NO COST OVERRUNS. NO DELAYS.  
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Sr No	Company Name	Sector
26	Gammon India Limited	Construction
27	Gayatri Projects Limited	Construction
28	Gujarat Industries Power Company Limited	Power
29	Gujarat Pipavav Port Limited	Ports
30	Gujarat State Petronet Limited	Oil & Gas
31	Himachal Baspa Power Company Limited	Power
32	Himachal Futuristic Communications Limited	Telecom
33	Hindustan Construction Company Limited	Construction
34	Hindustan Petroleum Corporation Limited	Oil & Gas
35	IL&FS Engineering and Construction Company Limited	Construction
36	IL&FS Transportation Networks Limited	Construction
37	IRB Infrastructure Developers Limited	Construction
38	ITD Cementation India Limited	Construction
39	India Power Corporation Limited	Power
40	The Indian Hume Pipe Company Limited	Construction
41	Indian Oil Corporation Limited	Oil & Gas
42	Indraprastha Gas Limited	Oil & Gas
43	Indus Towers Limited	Telecom
44	Ircon International Limited	Construction
45	JMC Projects (India) Limited	Construction
46	JSW Energy Limited	Power
47	Jindal Drilling & Industries Limited	Oil & Gas
48	KEC International Limited	Construction
49	KNR Constructions Limited	Construction
50	Kalpataru Power Transmission Limited	Construction
51	Kamarajar Port Limited	Ports
52	Kirby Building Systems India Private Limited	Construction
53	L&T Hydrocarbon Engineering Limited	Oil & Gas
54	Larsen & Toubro Limited	Construction
55	Maithon Power Limited	Power
56	Man Infraconstruction Limited	Construction



**NO COST OVERRUNS. NO DELAYS.  
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Sr No	Company Name	Sector
57	Mangalore Refinery and Petrochemicals Limited	Oil & Gas
58	Mcnally Bharat Engineering Company Limited	Construction
59	NBCC (India) Limited	Construction
60	NCC Limited	Construction
61	NHPC Limited	Power
62	NLC India Limited	Power
63	NTPC Limited	Power
64	Nava Bharat Ventures Limited	Power
65	Numaligarh Refinery Limited	Oil & Gas
66	Oil and Natural Gas Corporation Limited	Oil & Gas
67	Oil India Limited	Oil & Gas
68	PNC Infratech Limited	Construction
69	Pennar Engineered Building Systems Limited	Construction
70	Petron Engineering Construction Limited	Construction
71	Petronet LNG Limited	Oil & Gas
72	Power Grid Corporation Of India Limited	Power
73	Prakash Constrowell Limited	Construction
74	Pratibha Industries Limited	Construction
75	RPP Infra Projects Limited	Construction
76	Railtel Corporation Of India Limited	Telecom
77	Ramky Infrastructure Limited	Construction
78	Reliance Industries Limited	Oil & Gas
79	Reliance Infrastructure Limited	Power
80	Reliance Power Limited	Power
81	SJVN Limited	Power
82	Sadbhav Engineering Limited	Construction
83	Shriram EPC Limited	Construction
84	Simplex Infrastructure Limited	Construction
85	Simplex Projects Limited	Construction
86	Sunil Hitech Engineers Limited	Construction
87	Tata Power Company Limited	Power



**NO COST OVERRUNS. NO DELAYS.  
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Sr No	Company Name	Sector
88	Tata Power Renewable Energy Limited	Power
89	Tata Power Solar Systems Limited	Construction
90	Tata Projects Limited	Construction
91	Techno Electric and Engineering Company Limited	Construction
92	Thermax Engineering Construction Company Limited	Construction
93	Torrent Power Limited	Power
94	Udupi Power Corporation Limited	Power
95	VA Tech Wabag Limited	Construction
96	Vindhya Telelinks Limited	Telecom
97	Welspun Enterprises Limited	Construction

## Construction

Sr No	Company Name	Sector
1	Afcons Infrastructure Limited	Construction
2	Ashoka Buildcon Limited	Construction
3	Atlanta Limited	Construction
4	BGR Energy Systems Limited	Construction
5	B.L. Kashyap and Sons Limited	Construction
6	BS Limited	Construction
7	Brahmaputra Infrastructure Limited	Construction
8	C&C Constructions Limited	Construction
9	Consolidated Construction Consortium Limited	Construction
10	Dilip Buildcon Limited	Construction
11	Dredging Corporation of India Limited	Construction
12	Engineers India Limited	Construction
13	Everest Industries Limited	Construction
14	Fourth Partner Energy Private Limited	Construction
15	GMR Infrastructure Limited	Construction
16	GPT Infraprojects Limited	Construction
17	Gammon India Limited	Construction
18	Gayatri Projects Limited	Construction
19	Hindustan Construction Company Limited	Construction



**NO COST OVERRUNS. NO DELAYS.  
NOW YOU CAN RELAX!**

Sr No	Company Name	Sector
20	IL&FS Engineering and Construction Company Limited	Construction
21	IL&FS Transportation Networks Limited	Construction
22	IRB Infrastructure Developers Limited	Construction
23	ITD Cementation India Limited	Construction
24	The Indian Hume Pipe Company Limited	Construction
25	Ircon International Limited	Construction
26	JMC Projects (India) Limited	Construction
27	KEC International Limited	Construction
28	KNR Constructions Limited	Construction
29	Kalpataru Power Transmission Limited	Construction
30	Kirby Building Systems India Private Limited	Construction
31	Larsen & Toubro Limited	Construction
32	Man Infraconstruction Limited	Construction
33	Mcnally Bharat Engineering Company Limited	Construction
34	NBCC (India) Limited	Construction
35	NCC Limited	Construction
36	PNC Infratech Limited	Construction
37	Pennar Engineered Building Systems Limited	Construction
38	Petron Engineering Construction Limited	Construction
39	Prakash Constrowell Limited	Construction
40	Pratibha Industries Limited	Construction
41	RPP Infra Projects Limited	Construction
42	Ramky Infrastructure Limited	Construction
43	Sadbhav Engineering Limited	Construction
44	Shriram EPC Limited	Construction
45	Simplex Infrastructure Limited	Construction
46	Simplex Projects Limited	Construction
47	Sunil Hitech Engineers Limited	Construction
48	Tata Power Solar Systems Limited	Construction
49	Tata Projects Limited	Construction
50	Techno Electric and Engineering Company Limited	Construction
51	Thermax Engineering Construction Company Limited	Construction
52	VA Tech Wabag Limited	Construction
53	Welspun Enterprises Limited	Construction



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**Oil & Gas**

Sr No	Company Name	Sector
1	Aban Offshore Limited	Oil & Gas
2	Bharat Petroleum Corporation Limited	Oil & Gas
3	Chennai Petroleum Corporation Limited	Oil & Gas
4	GAIL (India) Limited	Oil & Gas
5	Gujarat State Petronet Limited	Oil & Gas
6	Hindustan Petroleum Corporation Limited	Oil & Gas
7	Indian Oil Corporation Limited	Oil & Gas
8	Indraprastha Gas Limited	Oil & Gas
9	Jindal Drilling & Industries Limited	Oil & Gas
10	L&T Hydrocarbon Engineering Limited	Oil & Gas
11	Mangalore Refinery and Petrochemicals Limited	Oil & Gas
12	Numaligarh Refinery Limited	Oil & Gas
13	Oil and Natural Gas Corporation Limited	Oil & Gas
14	Oil India Limited	Oil & Gas
15	Petronet LNG Limited	Oil & Gas
16	Reliance Industries Limited	Oil & Gas

**Ports**

Sr No	Company Name	Sector
1	Adani Ports and Special Economic Zone Limited	Ports
2	Deendayal Port Trust	Ports
3	Gujarat Pipavav Port Limited	Ports
4	Kamarajar Port Limited	Ports



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**Power**

Sr No	Company Name	Sector
1	Adani Power Limited	Power
2	CESC Limited	Power
3	Gujarat Industries Power Company Limited	Power
4	Himachal Baspa Power Company Limited	Power
5	India Power Corporation Limited	Power
6	JSW Energy Limited	Power
7	Maithon Power Limited	Power
8	NHPC Limited	Power
9	NLC India Limited	Power
10	NTPC Limited	Power
11	Nava Bharat Ventures Limited	Power
12	Power Grid Corporation Of India Limited	Power
13	Reliance Infrastructure Limited	Power
14	Reliance Power Limited	Power
15	SJVN Limited	Power
16	Tata Power Company Limited	Power
17	Tata Power Renewable Energy Limited	Power
18	Torrent Power Limited	Power
19	Udupi Power Corporation Limited	Power

**Telecom**

Sr No	Company Name	Sector
1	Bharti Infratel Limited	Telecom
2	Himachal Futuristic Communications Limited	Telecom
3	Indus Towers Limited	Telecom
4	Railtel Corporation of India Limited	Telecom
5	Vindhya Telelinks Limited	Telecom



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W www.herofutureenergies.com





# India's Leading Infrastructure Companies 2017

Sr No	Company Name	Total Income (₹ mn)
1	Indian Oil Corporation Limited	4,495,814.9
2	Reliance Industries Limited	2,737,500.0
3	Bharat Petroleum Corporation Limited	2,446,485.0
4	Hindustan Petroleum Corporation Limited	2,153,177.1
5	Oil and Natural Gas Corporation Limited	854,558.5
6	NTPC Limited	793,423.0
7	Larsen & Toubro Limited	682,732.0
8	Mangalore Refinery and Petrochemicals Limited	598,536.9
9	GAIL (India) Limited	500,592.6
10	Chennai Petroleum Corporation Limited	406,475.7
11	Power Grid Corporation of India Limited	265,814.6
12	Petronet LNG Limited	249,626.7
13	Indus Towers Limited	175,280.0
14	Numaligarh Refinery Limited	143,172.1
15	Adani Power Limited	117,531.9
16	Oil India Limited	111,910.7
17	Reliance Infrastructure Limited	110,043.4
18	Torrent Power Limited	102,068.9
19	NLC India Limited	93,472.5

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Sr No	Company Name	Total Income (₹ mn)
20	L&T Hydrocarbon Engineering Limited	88,449.3
21	NHPC Limited	87,298.4
22	Tata Power Company Limited	81,318.9
23	NCC Limited	80,321.5
24	KEC International Limited	77,741.7
25	CESC Limited	73,666.3
26	Bharti Infratel Limited	71,068.0
27	NBCC (India) Limited	63,679.6
28	Adani Ports and Special Economic Zone Limited	61,635.3
29	Tata Projects Limited	60,536.1
30	Afcons Infrastructure Limited	58,425.9
31	Simplex Infrastructures Limited	56,965.6
32	Dilip Buildcon Limited	51,090.7
33	Kalpataru Power Transmission Limited	50,600.8
34	Hindustan Construction Company Limited	44,581.4
35	IL&FS Transportation Networks Limited	44,005.1
36	JSW Energy Limited	43,695.2
37	Indraprastha Gas Limited	42,877.3
38	IRB Infrastructure Developers Limited	36,359.5
39	BGR Energy Systems Limited	34,479.5
40	Sadbhav Engineering Limited	34,078.4
41	Udupi Power Corporation Limited	33,284.4
42	Ircon International Limited	32,544.3
43	SJVN Limited	31,199.0

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Sr No	Company Name	Total Income (₹ mn)
44	ITD Cementation India Limited	28,913.2
45	Maithon Power Limited	24,230.2
46	JMC Projects (India) Limited	23,427.1
47	Tata Power Solar Systems Limited	22,626.1
48	Himachal Futuristic Communications Limited	22,608.6
49	Mcnally Bharat Engineering Company Limited	22,406.4
50	Gayatri Projects Limited	21,282.3
51	Ashoka Buildcon Limited	21,238.2
52	Sunil Hitech Engineers Limited	21,045.7
53	IL&FS Engineering and Construction Company Limited	20,155.5
54	VA Tech Wabag Limited	18,196.3
55	The Indian Hume Pipe Company Limited	18,025.1
56	Ramky Infrastructure Limited	17,710.6
57	PNC Infratech Limited	17,356.7
58	Engineers India Limited	16,723.0
59	KNR Constructions Limited	15,713.3
60	Himachal Baspa Power Company Limited	14,813.7
61	Deendayal Port Trust	13,831.5
62	Gujarat Industries Power Company Limited	13,815.8
63	Techno Electric and Engineering Company Limited	12,780.3
64	GMR Infrastructure Limited	11,824.2
65	Everest Industries Limited	11,644.4
66	Gujarat State Petronet Limited	11,157.6
67	Pratibha Industries Limited	11,023.5

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Sr No	Company Name	Total Income (₹ mn)
68	Gammon India Limited	10,698.5
69	Vindhya Telelinks Limited	10,504.8
70	Nava Bharat Ventures Limited	10,439.3
71	C&C Constructions Limited	9,786.1
72	Aban Offshore Limited	9,397.8
73	B.L. Kashyap and Sons Limited	9,116.5
74	Railtel Corporation of India Limited	8,994.1
75	Kirby Building Systems India Private Limited	7,349.8
76	Gujarat Pipavav Port Limited	7,184.6
77	BS Limited	6,957.0
78	Kamarajar Port Limited	6,405.0
79	Dredging Corporation of India Limited	5,996.9
80	Consolidated Construction Consortium Limited	5,835.2
81	Shriram EPC Limited	5,300.0
82	Pennar Engineered Building Systems Limited	5,082.9
83	Simplex Projects Limited	4,971.9
84	Reliance Power Limited	4,766.2
85	India Power Corporation Limited	4,693.6
86	Tata Power Renewable Energy Limited	4,004.4
87	Welspun Enterprises Limited	3,982.6
88	Jindal Drilling & Industries Limited	3,977.7
89	GPT Infraprojects Limited	3,799.4
90	RPP Infra Projects Limited	3,663.4
91	Petron Engineering Construction Limited	3,476.5

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Sr No	Company Name	Total Income (₹ mn)
92	Thermax Engineering Construction Company Limited	2,384.9
93	Atlanta Limited	2,268.7
94	Man Infraconstruction Limited	2,250.1
95	Prakash Constrowell Limited	2,174.7
96	Brahmaputra Infrastructure Limited	2,128.7
97	Fourth Partner Energy Private Limited	1,034.5

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## India's Leading Infrastructure Companies 2017

Sr No	Company Name	Net Profit (₹ mn)
1	Reliance Industries Limited	314,250.0
2	Indian Oil Corporation Limited	191,064.0
3	Oil and Natural Gas Corporation Limited	178,999.8
4	NTPC Limited	93,852.6
5	Bharat Petroleum Corporation Limited	80,393.0
6	Power Grid Corporation of India Limited	75,201.5
7	Hindustan Petroleum Corporation Limited	62,088.0
8	Larsen & Toubro Limited	54,537.4
9	Mangalore Refinery and Petrochemicals Limited	36,436.9
10	GAIL (India) Limited	35,029.1
11	Adani Ports and Special Economic Zone Limited	31,006.1
12	Indus Towers Limited	28,451.0
13	NHPC Limited	27,955.9
14	Bharti Infratel Limited	27,050.0
15	NLC India Limited	23,688.1
16	Numaligarh Refinery Limited	21,005.7
17	Petronet LNG Limited	17,056.7
18	Oil India Limited	15,486.8
19	SJVN Limited	15,441.4

Sr No	Company Name	Net Profit (₹ mn)
20	Reliance Infrastructure Limited	12,884.1
21	Chennai Petroleum Corporation Limited	10,297.5
22	CESC Limited	8,628.6
23	Deendayal Port Trust	6,938.6
24	Indraprastha Gas Limited	5,710.7
25	Gujarat State Petronet Limited	4,966.4
26	Kamarajar Port Limited	4,724.0
27	L&T Hydrocarbon Engineering Limited	4,363.2
28	Torrent Power Limited	4,323.6
29	Ircon International Limited	3,690.3
30	Dilip Buildcon Limited	3,609.4
31	NBCC (India) Limited	3,511.0
32	Engineers India Limited	3,250.4
33	Tata Power Company Limited	2,834.5
34	KEC International Limited	2,818.2
35	Kalpataru Power Transmission Limited	2,690.7
36	Maithon Power Limited	2,558.1
37	Gujarat Pipavav Port Limited	2,499.1
38	IL&FS Transportation Networks Limited	2,363.9
39	Gujarat Industries Power Company Limited	2,292.4
40	NCC Limited	2,255.0
41	Aban Offshore Limited	2,111.4
42	PNC Infratech Limited	2,096.9
43	IRB Infrastructure Developers Limited	2,032.4



Sr No	Company Name	Net Profit (₹ mn)
44	JSW Energy Limited	1,947.5
45	Sadbhav Engineering Limited	1,878.5
46	Ashoka Buildcon Limited	1,839.6
47	KNR Constructions Limited	1,572.5
48	Techno Electric and Engineering Company Limited	1,454.7
49	Himachal Baspa Power Company Limited	1,313.6
50	Railtel Corporation of India Limited	1,288.2
51	Himachal Futuristic Communications Limited	1,237.2
52	Simplex Infrastructures Limited	1,202.7
53	Tata Projects Limited	1,111.6
54	The Indian Hume Pipe Company Limited	987.8
55	Nava Bharat Ventures Limited	829.8
56	Atlanta Limited	824.4
57	Tata Power Solar Systems Limited	779.9
58	Afcons Infrastructure Limited	751.2
59	VA Tech Wabag Limited	749.8
60	Gayatri Projects Limited	743.6
61	Tata Power Renewable Energy Limited	686.6
62	Vindhya Telelinks Limited	672.4
63	Reliance Power Limited	642.6
64	Man Infraconstruction Limited	596.2
65	Hindustan Construction Company Limited	594.1
66	JMC Projects (India) Limited	593.8
67	Ramky Infrastructure Limited	572.2

Sr No	Company Name	Net Profit (₹ mn)
68	Kirby Building Systems India Private Limited	512.6
69	ITD Cementation India Limited	481.1
70	Udupi Power Corporation Limited	451.8
71	BGR Energy Systems Limited	441.5
72	Welspun Enterprises Limited	432.7
73	Sunil Hitech Engineers Limited	400.7
74	India Power Corporation Limited	391.2
75	C&C Constructions Limited	341.7
76	Pennar Engineered Building Systems Limited	244.0
77	RPP Infra Projects Limited	238.6
78	Jindal Drilling & Industries Limited	169.7
79	GPT Infracore Limited	104.8
80	Dredging Corporation of India Limited	74.1
81	B.L. Kashyap and Sons Limited	68.0
82	Prakash Constrowell Limited	64.1
83	Fourth Partner Energy Private Limited	34.3
84	Simplex Projects Limited	27.4
85	Everest Industries Limited	24.6
86	IL&FS Engineering and Construction Company Limited	23.0
87	Brahmaputra Infrastructure Limited	7.0
88	Thermax Engineering Construction Company Limited	3.4
89	Petron Engineering Construction Limited	(135.2)
90	Mcnally Bharat Engineering Company Limited	(582.8)
91	Consolidated Construction Consortium Limited	(1,339.6)

Sr No	Company Name	Net Profit (₹ mn)
92	Shriram EPC Limited	(2,317.4)
93	BS Limited	(4,081.2)
94	Pratibha Industries Limited	(8,235.5)
95	Gammon India Limited	(16,619.5)
96	GMR Infrastructure Limited	(36,841.1)
97	Adani Power Limited	(60,543.4)

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# India's Leading Infrastructure Companies 2017

Sr No	Company Name	Total Assets (₹ mn)
1	Reliance Industries Limited	5,467,460.0
2	Indian Oil Corporation Limited	2,592,132.7
3	Oil and Natural Gas Corporation Limited	2,472,494.9
4	NTPC Limited	2,365,774.9
5	Power Grid Corporation of India Limited	1,946,796.6
6	Larsen & Toubro Limited	1,021,968.2
7	Bharat Petroleum Corporation Limited	919,896.3
8	Hindustan Petroleum Corporation Limited	784,639.1
9	Reliance Infrastructure Limited	574,354.3
10	GAIL (India) Limited	562,699.9
11	NHPC Limited	494,027.8
12	Oil India Limited	453,395.5
13	Adani Power Limited	417,574.8
14	Tata Power Company Limited	398,686.7
15	Adani Ports and Special Economic Zone Limited	392,477.3
16	CESC Limited	284,471.6
17	NLC India Limited	275,093.8
18	Mangalore Refinery and Petrochemicals Limited	264,046.2
19	Reliance Power Limited	244,128.6



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Sr No	Company Name	Total Assets (₹ mn)
20	Indus Towers Limited	225,660.0
21	Bharti Infratel Limited	212,844.0
22	Torrent Power Limited	206,209.6
23	IL&FS Transportation Networks Limited	162,868.5
24	JSW Energy Limited	154,179.8
25	SJVN Limited	153,767.9
26	Petronet LNG Limited	138,291.0
27	GMR Infrastructure Limited	134,409.6
28	Chennai Petroleum Corporation Limited	114,955.7
29	Hindustan Construction Company Limited	112,039.8
30	Himachal Baspa Power Company Limited	98,070.6
31	Ircon International Limited	91,676.2
32	IRB Infrastructure Developers Limited	90,124.8
33	NCC Limited	89,158.5
34	Simplex Infrastructures Limited	84,176.2
35	Tata Power Renewable Energy Limited	81,593.2
36	KEC International Limited	76,896.2
37	Udupi Power Corporation Limited	76,607.9
38	Numaligarh Refinery Limited	72,374.9
39	Afcons Infrastructure Limited	68,363.1
40	Tata Projects Limited	67,560.8
41	Dilip Buildcon Limited	66,493.1
42	NBCC (India) Limited	65,229.3
43	L&T Hydrocarbon Engineering Limited	64,769.2



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Sr No	Company Name	Total Assets (₹ mn)
44	BGR Energy Systems Limited	62,167.2
45	Kalpataru Power Transmission Limited	60,997.3
46	Gammon India Limited	59,707.9
47	Aban Offshore Limited	59,015.8
48	Gujarat State Petronet Limited	58,333.7
49	Pratibha Industries Limited	54,795.0
50	Mcnally Bharat Engineering Company Limited	51,245.5
51	Maithon Power Limited	50,007.2
52	Deendayal Port Trust	48,563.4
53	Gayatri Projects Limited	46,401.3
54	Engineers India Limited	43,186.0
55	IL&FS Engineering and Construction Company Limited	42,593.8
56	Indraprastha Gas Limited	40,861.3
57	Sadbhav Engineering Limited	40,203.1
58	Ashoka Buildcon Limited	34,375.4
59	Gujarat Industries Power Company Limited	34,141.9
60	Ramky Infrastructure Limited	32,620.1
61	Nava Bharat Ventures Limited	32,193.7
62	Shriram EPC Limited	30,603.8
63	JMC Projects (India) Limited	28,335.3
64	Dredging Corporation of India Limited	26,662.7
65	PNC Infratech Limited	23,937.4
66	C&C Constructions Limited	23,652.3
67	Gujarat Pipavav Port Limited	23,505.7



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Sr No	Company Name	Total Assets (₹ mn)
68	Railtel Corporation of India Limited	23,115.1
69	VA Tech Wabag Limited	22,724.4
70	Himachal Futuristic Communications Limited	22,269.2
71	India Power Corporation Limited	20,747.6
72	BS Limited	19,297.4
73	ITD Cementation India Limited	18,566.4
74	Simplex Projects Limited	18,434.3
75	Tata Power Solar Systems Limited	17,508.0
76	Sunil Hitech Engineers Limited	17,168.3
77	Welspun Enterprises Limited	16,597.0
78	KNR Constructions Limited	16,179.3
79	B.L. Kashyap and Sons Limited	15,351.5
80	Consolidated Construction Consortium Limited	14,970.4
81	The Indian Hume Pipe Company Limited	13,294.4
82	Techno Electric and Engineering Company Limited	13,275.2
83	Vindhya Telelinks Limited	11,654.7
84	Jindal Drilling & Industries Limited	10,144.4
85	Everest Industries Limited	8,513.4
86	Atlanta Limited	8,237.0
87	Man Infraconstruction Limited	7,796.4
88	Brahmaputra Infrastructure Limited	6,886.2
89	Kirby Building Systems India Private Limited	5,566.1
90	Pennar Engineered Building Systems Limited	5,504.1
91	Petron Engineering Construction Limited	5,479.0



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Sr No	Company Name	Total Assets (₹ mn)
92	GPT Infraprojects Limited	5,352.7
93	RPP Infra Projects Limited	4,580.1
94	Prakash Constrowell Limited	2,398.2
95	Thermax Engineering Construction Company Limited	1,443.7
96	Fourth Partner Energy Private Limited	744.7
97	Kamarajar Port Limited	-

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## **THE CHALLENGE**

This was one of the biggest projects ever undertaken by Everest. Total 11 buildings, each with different purpose, had to be built. The allotted time for this colossal project was tight. The project was located on the outskirts, which made procurement and storage of materials difficult. Each of the building housed cranes up to 30 MT capacity.

## **THE SOLUTION**

To meet the deadline, the entire project was micromanaged. Each phase was further split into smaller phases, with individual timelines. This resulted in judicial management of resources and the logistics problem was solved. Local erector was hired to ensure that there was no language issues leading to miscommunication. Policy of "No supervision, no work" was followed. The highest safety and security standards were adhered during the entire construction process.

## **RESULT**

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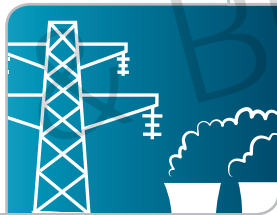


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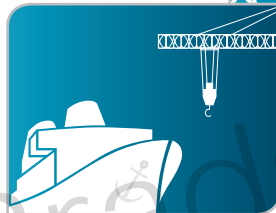
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# PROFILES

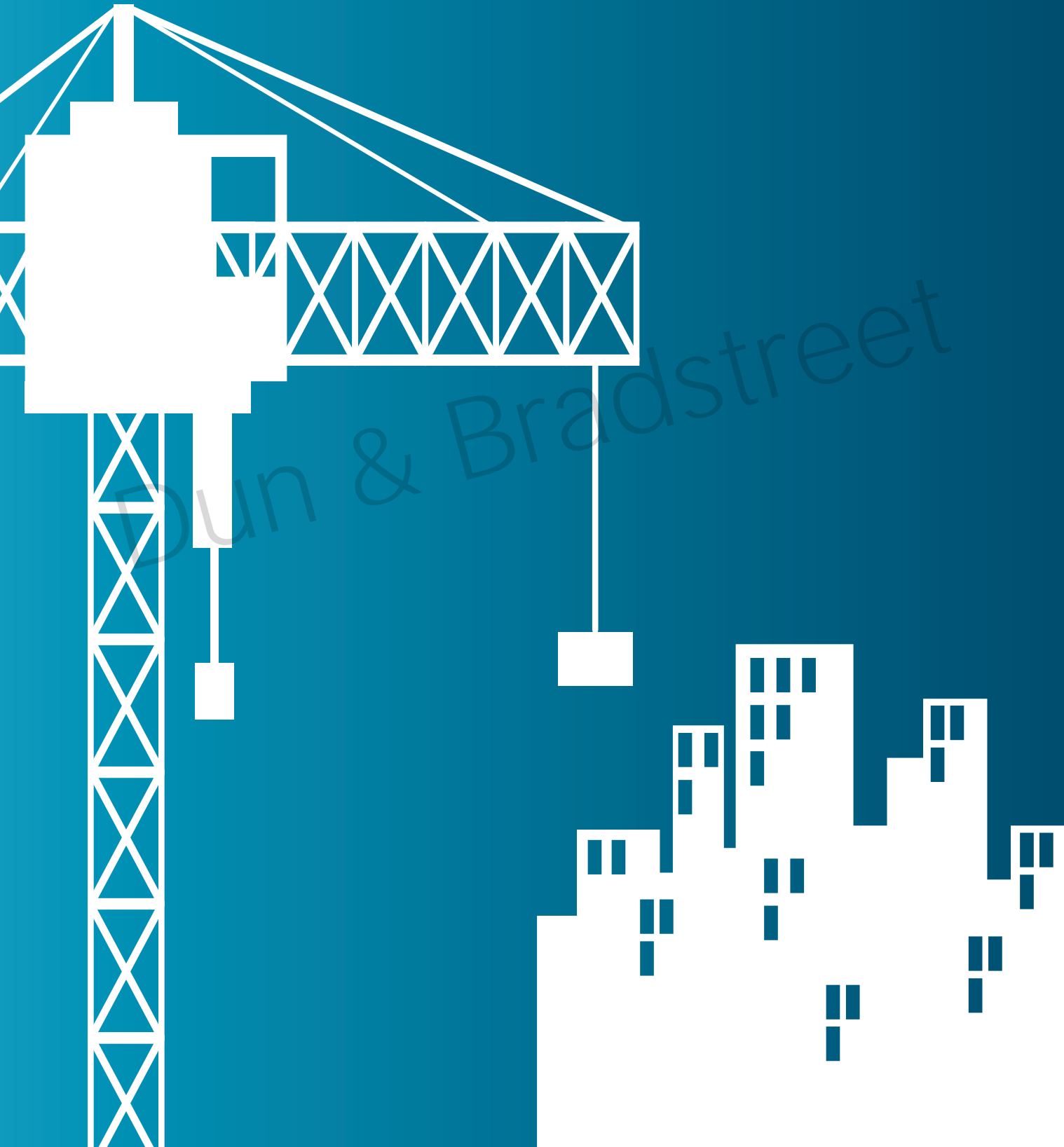


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# Construction



## Afcons Infrastructure Limited

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Website: [www.afcons.com](http://www.afcons.com)

### About the company

Afcons Infrastructure Ltd (Afcons), a Shapoorji Pallonji group company, was established in 1959 as a partnership firm. It acquired its present name in 1997. Afcons primarily undertakes construction of marine works like jetties, wet basins, dry docks, breakwater, slipways, wharves, intake and outfalls, industrial structures, onshore and offshore oil and gas projects, surface transport projects such as highways, bridges and flyovers, tunnels and hydroworks and other civil engineering projects. On the global front, it has executed projects in Abu Dhabi, Dubai, Qatar, Mauritius, Madagascar, Oman, Yemen, Algeria, Jordan, Bahrain and Liberia. The company's order book stood at ₹ 102.46 bn as on March 31, 2016, including fresh orders of ₹ 42.8 bn received in FY16.

### Dun & Bradstreet D-U-N-S® No 65-007-7712

Financial Snapshot (₹ Mn)	
Total Income	58,425.9
Net Profit	751.2
Total Assets	68,363.1
Ratios (%)	
NPM	1.3
ROA	1.1
Current Ratio	1.1

(As on March 31, 2017)

## Ashoka Buildcon Limited

S. No. 861, Ashoka House, Ashoka Marg, Nashik - 422011, Maharashtra  
Website: [www.ashokabuildcon.com](http://www.ashokabuildcon.com)

### About the company

Ashoka Buildcon Ltd (ABL) was established in 1976. The company is engaged in two key segments namely; EPC business for roads and power distribution projects; and development of roads & highways on BOT basis. It has presence in 11 states including; TN, Karnataka, Odisha and WB. As on Dec 31, 2016, it had an order book of ₹ 62.2 bn, comprising of nearly 73% projects from the road sector. As of Dec 31, 2016, the company had BOT portfolio of 31 projects of which 18 were operational, 5 were under-construction and 8 were handed-over. Some of the major on-going projects of the company as on Dec 31, 2016 include; eastern peripheral expressway, Mumbai JNPT port, Malshej ghat to Ane ghat to Ahmednagar bypass and Islampur bypass. It has also executed more than 25 power distribution projects with more than 19,000 kms of distribution line network.

### Dun & Bradstreet D-U-N-S® No 86-219-1301

Financial Snapshot (₹ Mn)	
Total Income	21,238.2
Net Profit	1,839.6
Total Assets	34,375.4
Ratios (%)	
NPM	8.7
ROA	5.7
Current Ratio	1.4

(As on March 31, 2017)

## Atlanta Limited

101, Shree Amba Shanti Chambers, Andheri (E), Mumbai - 400059, Maharashtra  
Website: [www.atlantalimited.in](http://www.atlantalimited.in)

### About the company

Atlanta Ltd (ATL), incorporated in 1977 as a partnership, became a public limited company in 2006. It is engaged in the business of construction of roads, highways, bridges, runways and undertakes other infrastructure development projects on EPC basis and PPP model on BOT and DBFOT basis. It is also engaged in real estate development, tourism, infrastructure business segment and mining of coal, and limestone. Major infrastructure projects executed by the company during FY17 were: development, operation and maintenance of the Ropar - Chamkur Sahib - Neelon - Doraha road, construction of a new 2-lane highway in Mizoram, construction of four laning of end of Moran bypass. The company had an order-book of around ₹ 17 bn during FY17 as against ₹ 6 bn during FY16. As on Mar 31, 2017, the company had six subsidiaries.

### Dun & Bradstreet D-U-N-S® No 86-229-2489

Financial Snapshot (₹ Mn)	
Total Income	2,268.7
Net Profit	824.4
Total Assets	8,237.0
Ratios (%)	
NPM	36.3
ROA	10.6
Current Ratio	1.7

(As on March 31, 2017)





## BGR Energy Systems Limited

A-5, Pannamgadu Industrial Estate, Sullurpet Taluk, Nellore District - 524401, AP  
Website: [www.bgrcorp.com](http://www.bgrcorp.com)

### About the company

BGR Energy Systems Ltd (BGR), formerly known as GEA Energy System (India) Ltd was formed as a joint venture between GEA Energietechnik GmbH (Germany) and the promoter, Mr. B. G. Raghupathy. BGR acquired the present name in 2007 and got listed on the BSE and NSE in 2008. BGR conducts business in two segments – supply of systems and equipment; and turnkey EPC. It has five business divisions - power projects, oil and gas equipment, air fin coolers, environmental engineering and electrical projects. During FY17, Air Fin Cooler Division (AFC) and the Environmental Engineering Division (EED) of BGR registered 38% and 948% growth in order book as compared to FY16 while Electrical Projects Division (EPD) secured EPC orders totalling ₹ 1.14 bn. The Power Projects Division during FY17 obtained three major BOP contracts totalling to ₹ 76.88 bn.

## B.L. Kashyap and Sons Limited

409, 4<sup>th</sup> Floor, DLF Tower - A, Jasola, New Delhi - 110025, Delhi  
Website: [www.blkashyap.com](http://www.blkashyap.com)

### About the company

B.L. Kashyap and Sons Ltd (BLK) was established in 1978. The company went public in 1995 and subsequently acquired its current name. BLK is engaged in construction and infrastructure development. The company's portfolio includes the construction of factories and manufacturing facilities; commercial and residential complexes; IT campuses; malls and hotels. In FY16, it executed projects covering an area of nearly 8.41 mn sq ft in about 20 cities. Key projects include Biocon research and manufacturing facility (Bengaluru), Britannia biscuit plant (Uttaranchal), Rajasthan Spinning and Weaving Mills (Banswara), Hero Honda Two-wheeler plant (Haridwar), Toyoto Kirloskar car manufacturing plant (Bengaluru), amongst many others. In FY16 it had 24 ongoing projects, aggregating to nearly 22 mn sq ft located across 20 cities and 14 states.

## BS Limited

8-2-269/10, #504, Trendset Towers, Road No. 2, Hyderabad - 500034, Telangana  
Website: [www.bsgroup.in](http://www.bsgroup.in)

### About the company

BS Ltd (BS) is primarily engaged in four businesses viz; power, telecom, mineral resources and environmental management. Under the power segment, it offers end-to-end services such as design, testing, commissioning, manufacturing, sourcing, supply and construction. Under telecom, it offers solutions for telecom passive infrastructure sector on a turnkey basis. It operates in the mineral resources and environmental management segment through its subsidiaries, BS Global Resources Pvt Ltd and BS Enviro Solutions Ltd respectively. BS owns a 2.4 lakh MT tower manufacturing unit and a 1.2 lakh MT structured steel mill. It is currently executing 2,000 kms of transmission lines, 43 substations, connecting 2,300 villages to the national grid. It is also executing the 1200 kV ultra-high voltage transmission line between Wardha and Aurangabad.

### Dun & Bradstreet D-U-N-S® No 67-582-8632

Financial Snapshot (₹ Mn)	
Total Income	34,479.5
Net Profit	441.5
Total Assets	62,167.2
Ratios (%)	
NPM	1.3
ROA	0.7
Current Ratio	1.1

(As on March 31, 2017)

### Dun & Bradstreet D-U-N-S® No 91-850-9659

Financial Snapshot (₹ Mn)	
Total Income	9,116.5
Net Profit	68.0
Total Assets	15,351.5
Ratios (%)	
NPM	0.7
ROA	0.4
Current Ratio	1.0

(As on March 31, 2017)

### Dun & Bradstreet D-U-N-S® No 86-024-3392

Financial Snapshot (₹ Mn)	
Total Income	6,957.0
Net Profit	(4,081.2)
Total Assets	19,297.4
Ratios (%)	
NPM	(58.7)
ROA	(18.7)
Current Ratio	1.1

(As on March 31, 2017)



## Brahmaputra Infrastructure Limited

Brahmaputra House, A-7, Mahipalpur, New Delhi – 110037, Delhi  
Website: [www.brahmaputragroup.com](http://www.brahmaputragroup.com)

### About the company

Brahmaputra Infrastructure Ltd (BIL) was established in 1987 and was converted into a limited company in 1998. It is engaged in infrastructure development activities mainly across the Northern, Eastern and North-Eastern parts of the country. It undertakes projects in the areas of EPC, real estate and hospitality. Its expertise lies in transportation engineering projects including roads, bridges, flyovers, airport runways, tunnels and also mining, building construction, land development / embankment / Flood Protection. In Jul 2017, the company received a letter of reward for execution of the construction of flyover including ROB in Bilaspur, Chhattisgarh. In Oct 2016, the company received a letter of award of construction project of ROB near Kotkapura, Punjab.

### Dun & Bradstreet D-U-N-S® No 67-580-4125

Financial Snapshot (₹ Mn)	
Total Income	2,128.7
Net Profit	7.0
Total Assets	6,886.2
Ratios (%)	
NPM	0.3
ROA	0.1
Current Ratio	1.4

(As on March 31, 2017)

## C&C Constructions Limited

74, Hemkunt Colony, New Delhi - 110048, Delhi  
Website: [www.candcinfrastructure.com](http://www.candcinfrastructure.com)

### About the company

C&C Constructions Ltd (C&C Constructions) was incorporated in 1996. It undertakes infrastructure construction projects for roads, highways and urban infrastructure including; water, sanitation and sewerage, power/telecom transmission, towers and commercial buildings. As on Mar 31, 2016, the company's total balance value of works on hand stood at ₹ 27.9 bn, with fresh orders accounting for ₹ 9.9 bn. Some of the new orders received in FY16 include; Design, Construction installation and commissioning of Civil Works in Sultanate of Oman Ltd; and Supply and service contract for Tower Package-P620-TW01 under transmission system strengthening in Indian System for transfer of power from Mangdechhu Hydroelectric project in Bhutan. During the same period, the roads & highways segment accounted for more than 75% of its total turnover.

### Dun & Bradstreet D-U-N-S® No 67-577-1047

Financial Snapshot (₹ Mn)	
Total Income	9,786.1
Net Profit	341.7
Total Assets	23,652.3
Ratios (%)	
NPM	3.5
ROA	1.4
Current Ratio	0.7

(As on March 31, 2017)

## Consolidated Construction Consortium Limited

No.5, II Link Street, C.I.T. Colony, Mylapore, Chennai - 600004, TN  
Website: [www.ccclindia.com](http://www.ccclindia.com)

### About the company

Consolidated Construction Consortium Ltd (CCCL) was incorporated in 1997. The company is an integrated turnkey construction service provider with a pan India presence with expertise in construction, engineering, procurement, project management. Through its subsidiaries, it provides allied services such as mechanical and electrical services; interior contracting and fit out services, glazing solutions and integrated software based engineering design services. CCCL has presence in Chennai, Bangalore, Hyderabad, Delhi, Kolkata, Ahmedabad, Pune and Trivandrum and operates overseas office in Middle East. Some of its projects include; Apollo Specialty Hospital at Nellore, Manipal Sports Complex Building, Chennai Airport new extension, Opaline – resident apartment, and Minister Quarters among others. In FY16, it bagged new orders to the extent of ₹ 6.5 bn.

### Dun & Bradstreet D-U-N-S® No 91-847-5898

Financial Snapshot (₹ Mn)	
Total Income	5,835.2
Net Profit	(1,339.6)
Total Assets	14,970.4
Ratios (%)	
NPM	(23.0)
ROA	(8.7)
Current Ratio	1.3

(As on March 31, 2017)



## Dilip Buildcon Limited

Plot No. 5, Kolar Road, Chuna Bhatti, Bhopal - 462016, MP  
Website: [www.dilipbuildcon.co.in](http://www.dilipbuildcon.co.in)

### About the company

Dilip Buildcon Ltd (DBL) was incorporated in Jun 2006 as a private sector road-focused EPC company. Initially the company focused on the construction of commercial and residential buildings in MP. With the growth in the business, DBL entered into other types of construction including water sanitation & sewage, structural designing, construction for clients in the oil & gas industry, road construction and mining. In the last five years, it has worked on 73 projects which include ten non-road projects. DBL completed road projects aggregating to 8,604.61 lane kms during the last five financial years ending Mar 2017. DBL secured new orders worth ₹ 113.03 bn, strengthening its order book by 63% to ₹ 175.68 bn as on Mar 31, 2017. In Feb 2017, it entered into partnership with IBM for Digital Transformation SAP (HANA), cloud services and operational excellence.

### Dun & Bradstreet D-U-N-S® No 67-580-3483

Financial Snapshot (₹ Mn)	
Total Income	51,090.7
Net Profit	3,609.4
Total Assets	66,493.1
Ratios (%)	
NPM	7.1
ROA	6.0
Current Ratio	1.1

(As on March 31, 2017)

## Dredging Corporation of India Limited

Core 2, Scope Minar, Plot No 2A/2B, Laxminagar District Centre, Delhi – 110092, Delhi  
Website: [www.dredging-india.com](http://www.dredging-india.com)

### About the company

Dredging Corporation of India Ltd (DCI) was established in 1976 and was conferred with the status of Mini-Ratna by GOI. DCI is engaged in providing dredging and allied marine services to major ports in India and abroad. It also provides services like capital dredging, maintenance dredging, beach nourishment, land reclamation, shallow water dredging, project consultancy and marine construction. In Jul 2017, DCI signed an agreement with Mongla Port Authority, Bangladesh for dredging in Pussur Channel, Bangladesh. In Nov 2016, the company bagged ₹ 11.19 bn contract for dredging of Kolkata Port. In FY17, DCI's fleet comprised of 12 Trailer Suction Hopper Dredgers (TSHDs), four Cutter Suction Dredgers (CSDs), one Back Hoe Dredger and one Inland Cutter Suction Dredger apart from other ancillary crafts.

### Dun & Bradstreet D-U-N-S® No 91-862-4151

Financial Snapshot (₹ Mn)	
Total Income	5,996.9
Net Profit	74.1
Total Assets	26,662.7
Ratios (%)	
NPM	1.2
ROA	0.3
Current Ratio	1.9

(As on March 31, 2017)

## Engineers India Limited

Engineers India Bhawan, 1, Bhikaji Cama Place, New Delhi - 110066, Delhi  
Website: [www.engineersindia.com](http://www.engineersindia.com)

### About the company

Engineers India Ltd (EIL) was established in 1965 as Engineers India Pvt Ltd. The company became a wholly-owned government company in 1967. EIL acquired the coveted Navratna status in 2014. It provides engineering consultancy and EPC services, primarily in the oil & gas, petrochemical, infrastructure, water & waste management, solar & nuclear power and fertiliser industries. It has executed over 5,000 projects comprising 73 refineries, 43 oil and gas projects, 213 offshore platforms, 32 mining and metallurgy projects and 14 ports and storage and terminal projects, 11 mega petrochemical complexes and 24 turnkey/ EPC projects. As on Mar 31 2017, EIL had a healthy order book of ₹ 77.6 bn. It secured fresh orders of ₹ 57.1 bn, including ₹ 54.4 bn from domestic consultancy and turnkey business and ₹ 2.6 bn from overseas business.

### Dun & Bradstreet D-U-N-S® No 65-004-6956

Financial Snapshot (₹ Mn)	
Total Income	16,723.0
Net Profit	3,250.4
Total Assets	43,186.0
Ratios (%)	
NPM	19.4
ROA	7.7
Current Ratio	2.3

(As on March 31, 2017)



## Everest Industries Limited

Gate No 152, Lakhmpur, Taluka Dindori, Nashik - 422202, Maharashtra  
Website: [www.everestind.com](http://www.everestind.com)

### About the company

Everest Industries Ltd (Everest Industries) was incorporated in the year 1934. The company is mainly engaged in the manufacturing and trading of building products which includes roofing products, boards and panels, other building products and accessories. It is also involved in manufacture and erection of pre-engineered and smart steel buildings and its accessories. It has six production facilities for building products with a cumulative installed capacity of 865,000 MTPA and 3 steel building manufacturing facilities located at Bhagwanpur, Dahej and Ranchi with a cumulative installed capacity of 72,000 MTPA. It has a wide distribution network of 38 sales depot and 6,000 dealers spread across 600 cities and 100,000 villages. As on FY17, it executed more than 2,000 projects and its steel building segment has carried forward an order book of 32,000 MT into FY18.

### Dun & Bradstreet D-U-N-S® No 67-550-4243

Financial Snapshot (₹ Mn)	
Total Income	11,644.4
Net Profit	24.6
Total Assets	8,513.4
Ratios (%)	
NPM	0.2
ROA	0.3
Current Ratio	1.2

(As on March 31, 2017)

## Fourth Partner Energy Private Limited

Plot No: N46, HS No: 4-9-10, HMT Nagar, Hyderabad – 500076, Telangana  
Website: [www.fourthpartner.co](http://www.fourthpartner.co)

### About the company

Fourth Partner Energy Ltd (FPEL), founded in 2010, is a renewable energy service company with an aim to build, develop and manage large operating portfolio of de-centralized solar power assets in India. The company is empanelled as a channel partner with the Ministry of New and Renewable Energy and is also in association with state bodies like RREC (Rajasthan), TNREC (Telangana) and NREDCAP (AP). FPEL provides support in every part of the solar project including finance, engineering expertise, project installation and post-installation support. It also provides turnkey EPC services for grid-connected and off-grid rooftop solar power installations. It has successfully installed solar projects across various states in the country, including AP, Telangana, Kerala, TN, Karnataka, Maharashtra, MP, Chattisgarh, Gujarat, Rajasthan, Punjab, Delhi, UP and Bihar.

### Dun & Bradstreet D-U-N-S® No 86-960-1107

Financial Snapshot (₹ Mn)	
Total Income	1,034.5
Net Profit	34.3
Total Assets	744.7
Ratios (%)	
NPM	3.3
ROA	6.5
Current Ratio	1.9

(As on March 31, 2017)

## GMR Infrastructure Limited

Naman Centre, Plot No - C-31 G Block, BKC, Bandra – (E), Mumbai - 400051, Maharashtra  
Website: [www.gmrgroup.in](http://www.gmrgroup.in)

### About the company

GMR Infrastructure Ltd (GMR Infra) was incorporated in 1996 as Varalakshmi Vasavi Power Projects Ltd, eventually assuming the present name in 2000. GMR Infra operates as a holding company in three different segments namely; airports, energy, transportation and urban infrastructure. Its airport business comprises of three operating airports. In the energy segment, GMR operates 4,600 MWs of coal, gas, liquid fuel and renewable power plants while nearly 2,200 MWs of power projects are under various stages of development. In transport segment, it operates nine highways assets; while its urban infrastructure segment involves development of Krishnagiri Special Investment Regions (SIRs) in TN. In FY17, the company won the international competitive bid for development and operation of Mopa Greenfield Airport in North Goa.

### Dun & Bradstreet D-U-N-S® No 86-453-2265

Financial Snapshot (₹ Mn)	
Total Income	11,824.2
Net Profit	(36,841.1)
Total Assets	134,409.6
Ratios (%)	
NPM	(311.6)
ROA	(24.5)
Current Ratio	0.8

(As on March 31, 2017)



## GPT Infraprojects Limited

GPT Centre, JC-25, Sector-III, Salt Lake, Kolkata - 700098, WB  
Website: [www.gptinfra.in](http://www.gptinfra.in)

### About the company

GPT Infraprojects Ltd (GPT Infra) was established in 1980 and acquired its present name in 2007, following TCPL's merger with GPT Infrastructures Pvt Ltd and GPT Agro Tech Ltd. GPT Infra is engaged in the execution of civil and infrastructure projects. It is engaged in two business segments - the infrastructure, and concrete sleepers. The infrastructure segment undertakes EPC contracts in roads, railways, power and industrial sectors. The sleeper division manufactures pre-stressed concrete sleepers across Panagarh, Pahara and Ikari locations in India, and Ladysmith and Tsumeb in Africa. As on FY17, its order book stood at ₹ 18.51 bn. Of the ₹ 7.11 bn fresh orders received in FY17, the majority of the orders comprised construction projects, mostly for execution of steel girder bridges, ROBs, and RUBs and contracts for the concrete sleeper segment.

## Gammon India Limited

Gammon House, Veer Savarkar Marg, Prabhadevi, Mumbai - 400025, Maharashtra  
Website: [www.gammonindia.com](http://www.gammonindia.com)

### About the company

Gammon India Ltd (GIL) was originally founded in 1922. The company went public in 1962 and acquired its current name. GIL is amongst the key players engaged in construction and turnkey engineering projects. Its areas of operations include; civil EPC projects; Design, Construction and Operation, oil exploration and production, and real estate development. As on Mar 2016, the order book of the company stood at ₹ 110 bn. Some of its ongoing projects encompassed; Stage 3 Pumping station (5X30 MW) of Kalwakurthy lift irrigation scheme, Brahmaputra bridge near Guwahati on NH-31 in Assam, design construction, finance, up-gradation of the road from Davangere (Km0+000) to Birur (Km 105+630) of SH 76 and execution of electro mechanical works for development of 66 MW Rangit-II, Hydro Electric Project at West Sikkim.

## Gayatri Projects Limited

6-3-1090, TSR Towers, B-1, Rajbhavan Road, Somajiguda, Hyderabad - 500082, Telangana  
Website: [www.gayatri.co.in](http://www.gayatri.co.in)

### About the company

Gayatri Projects Ltd (GPL), the flagship company of the Gayatri Group, was established in 1989 as Andhra Coastal Construction Pvt Ltd. GPL was converted into a public limited company in 1994 and acquired its present name. GPL undertakes infrastructure development projects like Concrete/Masonry Dams, Earth Filling Dams, National Highways, Bridges, Canals, Aqueducts and Ports among others. As on Apr 2017, the company had an order book of ₹ 129.32 bn excluding 3 inoperative irrigation orders totaling ₹ 17.78 bn. In March 2017, GPL secured a ₹ 13.63 bn irrigation contract in joint venture with RNS Infrastructure Ltd and Sadguru Infratech Pvt Ltd for the designing, supplying, installing, testing and commissioning of lift irrigation system.

### Dun & Bradstreet D-U-N-S® No 91-534-8602

Financial Snapshot (₹ Mn)	
Total Income	3,799.4
Net Profit	104.8
Total Assets	5,352.7
Ratios (%)	
NPM	2.8
ROA	2.0
Current Ratio	1.0

(As on March 31, 2017)

### Dun & Bradstreet D-U-N-S® No 65-005-2525

Financial Snapshot (₹ Mn)	
Total Income	10,698.5
Net Profit	(16,619.5)
Total Assets	59,707.9
Ratios (%)	
NPM	(155.3)
ROA	(26.0)
Current Ratio	0.1

(As on March 31, 2017)

### Dun & Bradstreet D-U-N-S® No 86-224-1734

Financial Snapshot (₹ Mn)	
Total Income	21,282.3
Net Profit	743.6
Total Assets	46,401.3
Ratios (%)	
NPM	3.5
ROA	1.7
Current Ratio	1.4

(As on March 31, 2017)



## Hindustan Construction Company Limited

Hincon House, LBS Marg, Vikhroli (West), Mumbai - 400083, Maharashtra  
Website: [www.hccindia.com](http://www.hccindia.com)

### About the company

Hindustan Construction Company Ltd (HCC), incorporated in 1926, is an engineering and construction company. The company undertakes and executes projects in the hydro power, water solution, transportation, and nuclear power and real estate sectors. As on Mar 31, 2017, the company's order book stood at ₹ 203.9 bn, out of which the transport segment accounted for a major share of 59% followed by hydro power at 22%. The company secured ₹ 53.75 bn worth of new orders in FY17. Some of the new projects bagged by the company in FY17 include; Bistan lift irrigation scheme (MP), AnjiKhad railway cable stayed bridge, IRCON tunnel T13 project (J&K), Mumbai Metro line 3: UGC-02, residential towers at Anushakti Nagar (Maharashtra), high rise buildings at DAE Anupuram (TN), and parallel safety tunnel of T-12 (Manipur).

### Dun & Bradstreet D-U-N-S® No 67-582-8932

Financial Snapshot (₹ Mn)	
Total Income	44,581.4
Net Profit	594.1
Total Assets	112,039.8
Ratios (%)	
NPM	1.3
ROA	0.6
Current Ratio	1.1

(As on March 31, 2017)

## IL&FS Engineering and Construction Company Limited

Door No.8-2-120/113/3/4F, Sanali Info Park, Banjara Hills, Hyderabad - 500033, Telangana  
Website: [www.ilfsengg.com](http://www.ilfsengg.com)

### About the company

IL&FS Engineering and Construction Company Ltd (IL&FS Engineering Services) was incorporated in 1988. It is engaged in providing integrated EPC services for civil construction and infrastructure projects. It executes projects in the buildings and structures, roads & bridges, railways, irrigation & water, power, ports, and oil and gas segments. As on FY17, the unexecuted order book of the company stood at ₹ 106.5 bn. The irrigation and roads segment accounted for respectively 29% and 25% of the order book in FY17. Some of the new projects awarded to the company during FY17 include; RE Infrastructure Development works under DUGJY for Sahibganj Package (Sahibganj & Pakur District), rural electricity infrastructure development works in north 24 parganas (Bidhannagar Region) & south 24 parganas districts, to name a few.

### Dun & Bradstreet D-U-N-S® No 91-887-4439

Financial Snapshot (₹ Mn)	
Total Income	20,155.5
Net Profit	23.0
Total Assets	42,593.8
Ratios (%)	
NPM	0.1
ROA	0.1
Current Ratio	0.7

(As on March 31, 2017)

## IL&FS Transportation Networks Limited

The IL&FS Financial Centre, C-22, Bandra (E), Mumbai - 400051, Maharashtra  
Website: [www.itnlindia.com](http://www.itnlindia.com)

### About the company

IL&FS Transportation Networks Ltd (ITNL) was formed in 2000 as a wholly-owned subsidiary of Infrastructure Leasing and Financial Services Ltd. ITNL operates in the transport infrastructure sector with a project portfolio comprising of national and state highways, urban roads, tunnels, flyovers and bridges and non-road sectors like metro rail, city bus services and border check posts. It has commissioned more than 30 BoT road projects in about 19 states covering 14,680 lane kms across the country. In FY17, its order book stood at ₹ 118.1 bn for BOT and ₹ 5.4 bn for EPC. In FY17, the company completed Chenani Nashri tunnel project in J&K and also commenced commercial operation. Apart from this, it completed Khed Sinnar road project in Maharashtra in Jan 2017 and the phase II of Rapid Metro South Extension corridor, in Gurgaon on Mar, 2017.

### Dun & Bradstreet D-U-N-S® No 91-825-4157

Financial Snapshot (₹ Mn)	
Total Income	44,005.1
Net Profit	2,363.9
Total Assets	162,868.5
Ratios (%)	
NPM	5.4
ROA	1.5
Current Ratio	1.6

(As on March 31, 2017)



## IRB Infrastructure Developers Limited

Office No. 201, Universal Business Park, Chandivali Farm Rd, Mumbai - 400072, Maharashtra  
Website: [www.irb.co.in](http://www.irb.co.in)

### About the company

IRB Infrastructure Developers Ltd (IRB Infra) was incorporated in 1998. It is engaged in the construction; and operation & maintenance of highways. It has completed more than 5,911 lane kms of highways on BOT basis, while 3,188 lane kms are under construction. As on FY17, IRB Infra's project portfolio comprised of 22 BOT projects, of which 14 are operational. Its total road projects under operation and implementation are spread across 11,828 lane kms. During the same period, the order book of the company stood at ₹ 99.6 bn of which ₹ 54.36 bn comprised new BOT projects. During FY17, the company was awarded following projects: Udaipur – Gujarat border project involving six laning of NH-8; Gulabpura – Chittorgarh project involving six laning of Kishangarh-Udaipur-Ahmedabad section of NH-79; and Kishangarh-Gulabpura project six laning project.

### Dun & Bradstreet D-U-N-S® No 67-594-2902

Financial Snapshot (₹ Mn)	
Total Income	36,359.5
Net Profit	2,032.4
Total Assets	90,124.8
Ratios (%)	
NPM	5.6
ROA	2.4
Current Ratio	0.6

(As on March 31, 2017)

## ITD Cementation India Limited

National Plastic Building, Vile Parle (E), Mumbai - 400057, Maharashtra  
Website: [www.itdcem.co.in](http://www.itdcem.co.in)

### About the company

ITD Cementation India Ltd (ITD Cem) was incorporated in 1978. It operates as a diversified construction and infrastructure company engaged in a wide variety of structures like maritime structures, mass rapid transport systems (MRTS), dams & tunnels, airports, highways, bridges & flyovers, buildings and other foundations and specialist engineering work. As on Dec 31, 2016, its order book grew by almost 26.5% to ₹ 65.8 bn, with maritime structures accounting for 41.4% of total order book. The key contracts secured in CY16 include: construction of multi-modal IWT terminal for Haldia, WB; civil works for the project of construction of the 5<sup>th</sup> oil berth at Jawahar Dweep in Mumbai harbour and development of multi-purpose terminal by replacement of existing EQ 2 to EQ 5 berths to cater to 14-m draft vessels in the inner harbour of Visakhapatnam Port Trust.

### Dun & Bradstreet D-U-N-S® No 86-220-0128

Financial Snapshot (₹ Mn)	
Total Income	28,913.2
Net Profit	481.1
Total Assets	18,566.4
Ratios (%)	
NPM	1.7
ROA	2.4
Current Ratio	1.0

(As on Dec 31, 2016)

## The Indian Hume Pipe Company Limited

Construction House, Ballard Estate, Mumbai - 400001, Maharashtra  
Website: [www.indianhumpipe.com](http://www.indianhumpipe.com)

### About the company

The Indian Hume Pipe Company Ltd (IHPCL) was established in the year 1926. It is engaged in manufacturing prestressed concrete pipes, prestressed concrete cylinder pipes, bar wrapped steel cylinder pipes, hume steel pipes, welded steel penstocks and prestressed concrete railway sleepers. It also executes turnkey water supply and sewerage projects. It has also undertaken projects in countries like Nepal, Sri Lanka, Myanmar, Malaysia and Iraq. Its major customers include Indian Railways, NTPC, BHEL, NCC, Tata Power, IFFCO, HCC, IVRCL, IRCON, NHPC and L&T. In FY17, IHPCL secured order worth ₹ 1 bn for BWSC pipes, orders worth ₹ 348.4 mn for PSC pipes and orders worth ₹ 1.6 bn for PCCP pipes along with other civil works. During the year the Company also received work orders for 308,256 nos. railway sleepers worth ₹ 500.3 mn.

### Dun & Bradstreet D-U-N-S® No 67-647-2966

Financial Snapshot (₹ Mn)	
Total Income	18,025.1
Net Profit	987.8
Total Assets	13,294.4
Ratios (%)	
NPM	5.5
ROA	8.3
Current Ratio	1.3

(As on March 31, 2017)





SK Chaudhary  
Chairman & Managing Director

Dun & Bradstreet D-U-N-S® No 65-017-7595

Financial Snapshot (₹ Mn)	
Total Income	32,544.3
Net Profit	3,690.3
Total Assets	91,676.2
Ratios (%)	
NPM	11.3
ROA	4.3
Current Ratio	2.0
<i>(As on March 31, 2017)</i>	
Management Details	
<b>Chairman &amp; Managing Director</b> SK Chaudhary	
<b>Directors</b> Deepak Sabhlok H Khanna MK Singh R Chaudhry SC Jain A Matta SK Singh Prof VV Kamat Dr CB Venkataramana Dr Narender Singh Raina	
Address	
C-4, District Centre, Saket, New Delhi – 110017, Delhi	
<b>Website</b> www.ircon.org	

## Ircon International Limited

### About the Company

Ircon International Ltd (IRCON), incorporated in 1976 by the Ministry of Railways, GoI, was previously known as Indian Railway Construction Co Ltd. It covers the entire spectrum of construction activities in the infrastructure sector as a turnkey construction company. It has wide spread operations not only in India but also has active presence in overseas in Malaysia, Nepal, Bangladesh, Mozambique, Ethiopia, Afghanistan, UK, Algeria and Sri Lanka.

### Business Profile

IRCON is primarily engaged in a wide range of construction activities. Till FY16, the company had completed more than 120 projects in more than 24 countries across the globe, and 376 projects in India. Its areas of expertise include:

- Railways:** Services such as construction of new railway lines, rehabilitation/gauge conversion of existing lines, station buildings and facilities, bridges, tunnels, signalling and telecommunication works, among others. In FY16, railways contributed nearly 79% to the company's operating income.
- Highways:** IRCON undertakes construction of flexible pavement/rigid pavements, and complete Mechanization of Highway Construction; accounting for nearly 9% to its operating income in FY16.
- Electrical:** Turnkey project management including design, supply, erection, testing and commissioning in the field of sub-stations; railway electrification works; industrial electrification; power supply distribution network; and HT Grid & Traction Sub-station among others. This segment accounted for about 8% to the company's operating income.
- Buildings:** Construction of commercial & residential buildings, industrial complexes, institutional buildings, airport, hangers, hospitals, etc along with providing services like electrification, plumbing, fire-fighting.
- Others:** Apart from the above main segments, the company also operates in various other segments including; Bridges/flyovers, signalling & telecom, mechanical, aviation, coach factory and station building among others.

IRCON operates four subsidiaries and six JVs in India. In May 2016, it formed one more joint venture company namely; Bastar Railway Pvt Ltd.

### Performance & Project Highlights

During FY17, IRCON secured orders worth ₹ 60.30 bn and the order book stood at ₹ 188.78 bn. During FY17, domestic projects accounted for 89.57% of its total income. IRCON is currently executing five major projects in foreign countries. Some of its major ongoing projects include;

- Katra-Qazigund section including Dharam-Qazigund section, including additional works, for Northern Railway, valued at ₹ 95.2 bn
- Setting up of new Rail Coach Factory at Rae Bareilly, including additional works, for Ministry of Railways, valued at ₹ 23.38 bn.
- Construction of Corridor-I of East Corridor between Kharsia to Dharamjaygarh and Spur Line in the State of Chhattisgarh, for Chhattisgarh East Railway Limited, valued at ₹ 14.2 bn.
- Construction of Embankment, Track, all civil works, major and minor bridges (except Rupsha) & culverts and implementation of EMP of Khulna-Mongla Port Rail Line in Bangladesh, valued at ₹ 9.71 bn.
- Installation of a double track line (93 km) in Algeria awarded by ANESRI, Ministry of Transport, Government of Algeria, at a value of ₹ 11.03 bn.



## JMC Projects (India) Limited

A-104, Shapath-4, Opp. Karnavati Club, S. G. Road, Ahmedabad - 380015, Gujarat  
Website: www.jmcprojects.com

### About the company

JMC Projects (India) Ltd (JMC), incorporated in 1986, is part of Kalpataru Group. It is engaged in civil & structural, mechanical, electrical and fire-fighting engineering for all major industries and project types. It undertakes civil and structural construction and operates in the building & housing, infrastructure, industrial and power, and some special projects such as sports complexes & facilities and tourism projects. The company undertakes projects in four formats - EPC, general contracting, conventional contracting and BOOT/PPP concessions. As on FY17, it received orders worth ₹ 32 bn, taking the total order backlog at the end of the year to ₹ 70 bn. Some of the orders received during the year include; Construction of Mankhurd Ghatkopar Link Road Flyover for MCGM, Mumbai, construction of residential apartments Rio De Goa at Marmugao, Goa, etc.

## KEC International Limited

RPG House, 463, Dr. Annie Besant Road, Worli, Mumbai - 400030, Maharashtra  
Website: www.kecprg.com

### About the company

KEC International Ltd (KEC), was incorporated in 1945 for manufacturing, enameling and trading of hollowware. KEC operates in five key verticals namely; power transmission & distribution, cables, railways, renewables and water. In power transmission & distribution segment, KEC undertakes design, manufacture, test, supply and erection of transmission lines upto 1,200 KV, installation of substations, distribution network, and HV/EHV cabling projects. The cable segment manufactures wide range of power and telecom cables; while in the railway vertical, it undertakes civil infrastructure, railway electrification and power systems among others. In FY17, the company secured orders of ₹ 93.45 bn in the power transmission & distribution segment, ₹ 14.27 bn in the railways segment, ₹ 6.13 bn in the renewables segment and ₹ 9.76 bn in the cables section.

## KNR Constructions Limited

C-125, Anand Niketan, New Delhi – 110021, Delhi  
Website: www.knrcl.com

### About the company

KNR Constructions Ltd (KNRCL), incorporated in 1995, is an infrastructure development company engaged in offering EPC services primarily across road transportation projects. The company is involved in construction and maintenance of roads & highways, flyovers with further diversification into related sectors such as irrigation and urban water infrastructure management. Till Mar 2016, it had executed nearly 5,888 lane kms road projects across 12 states in the country through JV's, EPC and PPP modes. As on June 2017, the company's order book position stood at ₹ 33.388 bn comprising of around 85% road projects. In Nov 2016, the company along with Patel Engineering Ltd signed a purchase agreement to sell its entire equity stake in two road BOT assets, Patel KNR Infrastructure Ltd and Patel KNR Heavy Infrastructure Ltd to an Essel group company.

### Dun & Bradstreet D-U-N-S® No 91-531-4332

Financial Snapshot (₹ Mn)	
Total Income	23,427.1
Net Profit	593.8
Total Assets	28,335.3
Ratios (%)	
NPM	2.5
ROA	2.1
Current Ratio	1.5

(As on March 31, 2017)

### Dun & Bradstreet D-U-N-S® No 86-003-7880

Financial Snapshot (₹ Mn)	
Total Income	77,741.7
Net Profit	2,818.2
Total Assets	76,896.2
Ratios (%)	
NPM	3.6
ROA	3.6
Current Ratio	1.2

(As on March 31, 2017)

### Dun & Bradstreet D-U-N-S® No 65-064-9853

Financial Snapshot (₹ Mn)	
Total Income	15,713.3
Net Profit	1,572.5
Total Assets	16,179.3
Ratios (%)	
NPM	10.0
ROA	10.9
Current Ratio	1.2

(As on March 31, 2017)



## Kalpataru Power Transmission Limited

Plot No. 101, Part III, GIDC Estate, Sector 28, Gandhinagar - 382028, Gujarat  
Website: [www.kalpatarupower.com](http://www.kalpatarupower.com)

### About the company

Kalpataru Power Transmission Ltd (KPTL) was incorporated in 1981 and commissioned its first tower manufacturing plant in 1983. KPTL is an EPC contracting company with a diversified portfolio having presence in over 40 countries across Asia, Middle East, Africa, Americas, Australia and Europe. KPTL operates under two business segments viz. transmission & distribution (T&D) and infrastructure EPC. As on Mar 31, 2017 the order book of KPTL stood at ₹ 90 bn with T&D comprising 80% of the total orders and infrastructure (pipeline & railways comprising 20%. In Jun 2017, the company received new orders worth ₹ 6.76 bn and of ₹ 12 bn in Mar 2017. In Apr 2017, KPTL acquired 100% equity holding in SPV company, Kohima Mariani Transmission Ltd. Earlier in Jan 2017, the company had received multiple orders exceeding ₹ 8.25 bn for various projects.

### Dun & Bradstreet D-U-N-S® No 86-223-4684

Financial Snapshot (₹ Mn)	
Total Income	50,600.8
Net Profit	2,690.7
Total Assets	60,997.3
Ratios (%)	
NPM	5.3
ROA	4.7
Current Ratio	1.3

(As on March 31, 2017)

## Kirby Building Systems India Private Limited

Plot No 8-15, IDA Phase III, Pashamylaram, Medak Dist. - 502307, Telangana  
Website: [www.kirbyinternational.com](http://www.kirbyinternational.com)

### About the company

Kirby Building Systems India Pvt Ltd (Kirby) commenced its operations in 1999. The company offers a comprehensive product portfolio ranging from pre-engineered steel building, structural steel, sandwich panels, storage solutions. Kirby's steel building products cater to the various market segments including heavy & medium industries, retail, logistics, automobile, general engineering, infrastructure, commercial/ high-rise buildings, warehouses, oil & gas and leisure structures. Kirby's manufacturing facilities are located in Hyderabad and Haridwar with an annual capacity of 100,000 MT each. Some of the major projects of the company include Royal Enfield factory, Renault Nissan factory, Hansen Drives factory, Honda Express Logistics, SSZ commodities warehouse, Hindustan Unilever, Madhucon Power Plant, Delhi Metro Railway station amongst other.

### Dun & Bradstreet D-U-N-S® No 65-072-2171

Financial Snapshot (₹ Mn)	
Total Income	7,349.8
Net Profit	512.6
Total Assets	5,566.1
Ratios (%)	
NPM	7.0
ROA	10.2
Current Ratio	1.7

(As on Dec 31, 2016)

## Larsen & Toubro Limited

L&T House, Ballard Estate, Mumbai - 400001, Maharashtra  
Website: [www.larsentoubro.com](http://www.larsentoubro.com)

### About the company

Larsen & Toubro Ltd (L&T), incorporated in 1946, is a diversified company with business interests in technology, engineering, manufacturing, construction and financial services. Under infrastructure business, it is involved in; buildings & factories, transportation infrastructure, heavy civil infrastructure, power transmission & distribution, renewable energy, water & effluent treatment and smart world & communication. It has presence in more than 35 locations internationally and about 100 locations in India. During FY17, the company secured fresh orders of ₹ 1,429.95 bn recording a growth of 5%. In FY17, the company listed two of its subsidiaries, L&T Infotech Ltd and L&T Technology Services Ltd. In Aug 2017, L&T secured ₹ 33.75 bn order from Metro Express Ltd, Mauritius to design and build an Integrated Light Rail-based Urban Transit System.

### Dun & Bradstreet D-U-N-S® No 87-281-4964

Financial Snapshot (₹ Mn)	
Total Income	682,732.0
Net Profit	54,537.4
Total Assets	1,021,968.2
Ratios (%)	
NPM	8.0
ROA	5.4
Current Ratio	1.4

(As on March 31, 2017)



## Man Infraconstruction Limited

Krushal Commercial Complex, G. M. Road, Chembur (W), Mumbai – 400089, Maharashtra  
Website: www.maninfra.com

### About the company

Man Infraconstruction Ltd (MIL), incorporated in 2002, is an integrated EPC company that undertakes construction projects in port, residential, commercial and industrial and road infrastructure segments. It has successfully worked on five ports namely; Jawaharlal Nehru Port Trust, Mundra Port, Chennai Port, Vallarpadam Port and the Pipavav Port. It has also completed construction of high rise building with three residential towers of 55 storey in Mumbai. As on June 2017, MIL's order book stood at ₹ 7,096 mn, of which port infrastructure constituted 70%, residential projects contributed 29% while commercial and industrial projects were of 1%. During this period, MIL's portfolio included four ongoing and three upcoming projects in Mumbai with an approximate saleable area of 7.5 mn sq. ft.

### Dun & Bradstreet D-U-N-S® No 65-035-4728

Financial Snapshot (₹ Mn)	
Total Income	2,250.1
Net Profit	596.2
Total Assets	7,796.4
Ratios (%)	
NPM	26.5
ROA	8.1
Current Ratio	6.6

(As on March 31, 2017)

## Mcnally Bharat Engineering Company Limited

4 Mangoe Lane, Kolkata - 700001, WB  
Website: www.mcnallybharat.com

### About the company

McNally Bharat Engineering Co Ltd (MBE) was incorporated in 1961 as a JV between McNally Pittsburgh, US and Bird & Co, UK in the name McNally Bird Engg Co Ltd. MBE is engaged in the business of providing turnkey solutions in the areas of power, steel, aluminum, material handling, and mineral beneficiation among others. In Jul 2017, MBE received an order for construction of entry/exit structure of Elamkulam station and balance works in the main station building at Elamkulam from Delhi Metro Rail Corp Ltd for around ₹ 434.9 mn. In FY16, it secured significant orders which include GIS substation order from WBSETCL for ₹ 329.5 mn; debottlenecking of Zawar plant from Hindustan Zinc Ltd for ₹ 1.6 bn and operation and maintenance of coal based power plants from Adani Power Maharashtra Ltd for ₹ 1.25 bn.

### Dun & Bradstreet D-U-N-S® No 65-005-4781

Financial Snapshot (₹ Mn)	
Total Income	22,406.4
Net Profit	(582.8)
Total Assets	51,245.5
Ratios (%)	
NPM	(2.6)
ROA	(1.3)
Current Ratio	0.9

(As on March 31, 2017)

## NBCC (India) Limited

NBCC Bhawan, Lodhi Road, New Delhi - 110003, Delhi  
Website: www.nbccindia.gov.in

### About the company

NBCC (India) Ltd (NBCC) was set up in 1960 and was conferred with the Schedule - A Navratna status in June 2014. It offers civil engineering construction services in India and overseas. Its operations are segregated into three segments namely; project management consultancy (PMC), real estate development and EPC Contracting. As on Mar 2016, the order book status of the company stood at ₹ 297.8 bn, with fresh order of ₹ 175.1 bn received in FY16. Additionally, in Jul 2017, it incorporated two wholly-owned subsidiaries named NBCC Environment Engineering Ltd and NBCC International Ltd. In Jul 2017, NBCC also signed an MoU with South Delhi Municipal Corporation (SDMC) for planning, design and construction of office building/SDMC headquarters for ₹ 5.25 bn. In Apr 2017, the company announced to takeover Hindustan Steelworks Construction Ltd.

### Dun & Bradstreet D-U-N-S® No 65-007-7241

Financial Snapshot (₹ Mn)	
Total Income	63,679.6
Net Profit	3,511.0
Total Assets	65,229.3
Ratios (%)	
NPM	5.5
ROA	5.9
Current Ratio	1.3

(As on March 31, 2017)



## NCC Limited

NCC House, Madhapur, Hyderabad - 500081, Telangana  
Website: [www.ncclimited.com](http://www.ncclimited.com)

### About the company

NCC Ltd (NCC), formerly known as Nagarjuna Construction Company Ltd, was incorporated as a partnership firm in 1978. It went on to become a public limited company in 1990 and acquired its present name in 2011. NCC operates in the infrastructure sector and is engaged in civil construction across ten business verticals namely; buildings & housing, roads, water & environment, electrical, irrigation, metals, power, international, mining and railways. It also has presence in the Middle East where it undertakes works in roads, buildings, and water segments. As on Mar 31 2017, the company's order book stood at ₹ 180.89 bn. During the same period, it bagged fresh orders worth ₹ 92.26 bn and executed projects worth 87.92 bn. In Oct 2016, Pachhara North Coal Block MDO project was awarded to NCC-BGR Consortium.

## PNC Infratech Limited

NBCC Plaza, Tower-II, 4<sup>th</sup> Floor, Pushp Vihar, Sector-V, Saket, New Delhi - 110017, Delhi  
Website: [www.pncinfratech.com](http://www.pncinfratech.com)

### About the company

PNC Infratech Ltd (PNC Infratech) is an infrastructure construction and development company with expertise in segments such as highways, bridges, flyovers, power transmission lines, airport runways and industrial area development. The company also executes and implements projects on DBFOT, Operate-Maintain-Transfer (OMT) and PPP basis. It has executed 54 infrastructure projects spread across 13 states and is currently executing 17 EPC projects, operating seven BOT projects and one OMT project. As on FY16, PNC Infratech had contracts under execution worth ₹ 55.37 bn. In FY16, the company secured seven new projects comprising of six highway projects and one airport runway project, for a contract value of ₹ 39.7 bn. In Jul 2016, it bagged PWD road project in UP worth ₹ 2.3 bn and hybrid annuity highway project in Rajasthan worth ₹ 8.8 bn.

## Pennar Engineered Building Systems Limited

9<sup>th</sup> Floor (West Wing), DHFLVC Silicon Towers, Kondapur, Hyderabad – 500084, Telangana  
Website: [www.pebspennar.in](http://www.pebspennar.in)

### About the company

Pennar Engineered Building Systems Ltd (PEBS) was incorporated in 2008. The company is engaged in designing, fabricating and installing pre-engineered steel buildings, supplying structural steel and components for manufacturing industries, warehouses, aircraft hangars, commercial buildings, high-rises, metro stations, stadiums and power plants, among others. PEBS is also engaged in designing, fabricating and installing solar module mounting structures, telecom transmission towers and cold-form buildings for low-cost housing projects, among others. PEBS operates through a manufacturing facility spread across an area of 29,000 sq mtrs and a production capacity of 90,000 MTPA. In FY17, PEBS has delivered 62,017 MT of products as against 58,195 MT in FY16. As on Mar 31, 2017, the company's order book position of the company stood at ₹ 4.25 bn.

### Dun & Bradstreet D-U-N-S® No 65-065-2100

Financial Snapshot (₹ Mn)	
Total Income	80,321.5
Net Profit	2,255.0
Total Assets	89,158.5
Ratios (%)	
NPM	2.8
ROA	2.5
Current Ratio	1.3

(As on March 31, 2017)

### Dun & Bradstreet D-U-N-S® No 87-164-5125

Financial Snapshot (₹ Mn)	
Total Income	17,356.7
Net Profit	2,096.9
Total Assets	23,937.4
Ratios (%)	
NPM	12.1
ROA	9.8
Current Ratio	1.9

(As on March 31, 2017)

### Dun & Bradstreet D-U-N-S® No 86-415-1058

Financial Snapshot (₹ Mn)	
Total Income	5,082.9
Net Profit	244.0
Total Assets	5,504.1
Ratios (%)	
NPM	4.8
ROA	4.7
Current Ratio	1.6

(As on March 31, 2017)



## Petron Engineering Construction Limited

6<sup>th</sup> Floor, Swastik Chambers, Sion-Trombay Road, Chembur, Mumbai - 400071, Maharashtra  
Website: [www.petronengineering.com](http://www.petronengineering.com)

### About the company

Petron Engineering Construction Ltd (PECL) was incorporated in July 1976. PECL provides specialized turnkey/ composite construction solutions in the areas of power, cement, refinery, fertilizer, steel plants and other process plants. PECL also provides support for commissioning services for industrial and infrastructure projects. It has executed around EPC/construction works for over 120 fired heaters, 45 power plants and 40 cement plants. In August 2017, PECL received work order for civil and mechanical works from The Ramco Cements Ltd at Kolghat Grinding Unit, West Bengal for around ₹ 620 mn. In 2017, it bagged work orders for mechanical, electrical and instrumentation works from Reliance Industries Ltd, Jamnagar for SEZ area for around ₹ 250 mn; and from Guruashish Construction Pvt. Ltd., for building structure works for around ₹ 1.1 bn.

### Dun & Bradstreet D-U-N-S® No 86-216-8122

Financial Snapshot (₹ Mn)	
Total Income	3,476.5
Net Profit	(135.2)
Total Assets	5,479.0
Ratios (%)	
NPM	(3.9)
ROA	(2.3)
Current Ratio	0.9

(As on March 31, 2017)

## Prakash Constrowell Limited

The Exchange, Near Ved Mandir, Tidke Colony, Nashik – 422002, Maharashtra  
Website: [www.prakashconstro.com](http://www.prakashconstro.com)

### About the company

Prakash Constrowell Ltd (PCL) was incorporated in 1996. PCL operates in three business segments, namely civil construction, industrial and infrastructure work and real estate. Civil construction segment undertakes various projects such as government staff quarters, hostel buildings and auditoriums. Industrial and infrastructure works segment includes construction and maintenance of roads/ highways, bridges, including projects on PPP model, industrial parks, workshops, hospitals and educational institutions. Major projects completed by the company include multipurpose indoor hall at Teleigao, Goa; College of Engineering NDMVP Samaj-Nashik, Police Training School at Sangli & Pinnacle Mall in Nashik among others. During FY17, the company acquired Bhumit Real Estate Pvt Ltd, the scheme of demerger with same was filed, which was withdrawn on April 26, 2017.

### Dun & Bradstreet D-U-N-S® No 72-598-2867

Financial Snapshot (₹ Mn)	
Total Income	2,174.7
Net Profit	64.1
Total Assets	2,398.2
Ratios (%)	
NPM	2.9
ROA	2.9
Current Ratio	1.8

(As on March 31, 2017)

## Pratibha Industries Limited

Shrikant Chambers, Phase II, Sion Trombay Road, Chembur, Mumbai - 400071, Maharashtra  
Website: [www.pratibhagroup.com](http://www.pratibhagroup.com)

### About the company

Pratibha Industries Ltd (PIL), the flagship company of the Pratibha Group, was established in 1982. PIL is engaged in the business of infrastructure construction and providing turnkey engineering procurement and construction services. The company operates in three business units namely; water & environmental engineering; buildings; and urban infrastructure & special projects. Under water & environmental engineering the company undertakes transmission projects, integrated water supply projects, water/waste treatment projects, sewerage projects, pumping stations, reservoirs and metering projects. Its buildings segment encompass residential and townships, commercial buildings, hospitals, hotels, schools and multi-level car park; while urban infrastructure unit includes underground metros, ports, roads, tunneling and micro tunneling.

### Dun & Bradstreet D-U-N-S® No 87-171-1955

Financial Snapshot (₹ Mn)	
Total Income	11,023.5
Net Profit	(8,235.5)
Total Assets	54,795.0
Ratios (%)	
NPM	(74.7)
ROA	(14.7)
Current Ratio	0.8

(As on March 31, 2017)



## RPP Infra Projects Limited

SF No. 454, Raghupathynaiken Palayam, Poondurai Road, Erode – 638002, TN  
Website: www.rppiopl.com

### About the company

RPP Infra Projects Ltd (RPP Infra), incorporated in the year 1988, undertakes projects for construction and infrastructure development. RPP Infra's infrastructure development projects include highways, roads, bridges, civil construction work for irrigation & water supply projects and power plants. The company had an order book of ₹ 7.86 bn as on Mar 31, 2017. In Aug 2017, it bagged order worth of ₹ 507 mn for construction of police quarters in Kolar City. In June 2017, it won an order for establishment of primary processing centre for supply chain management at Pochampalli in TN worth ₹ 191 mn. Earlier in May 2017, it received order from Transmission Corporation of Telangana Ltd worth around ₹ 330 mn. Other work orders include one from KSDB and two orders from Kamarajar Port Ltd and Chennai Corporation.

## Ramky Infrastructure Limited

Ramky Grandiose, Sy No 136/2 & 4, Gachibowli, Hyderabad – 500032, Telangana  
Website: www.ramkyinfrastructure.com

### About the company

Ramky Infrastructure Ltd (Ramky Infra) was incorporated in 1994 and operates in three principal business modes viz; EPC business operated directly by the company, developer business operated through its subsidiaries and associates, and international business operated through overseas subsidiary company in UAE. Ramky Infra undertakes construction and infrastructure projects in water supply, waste water management, transportation, irrigation, industrial construction, power transmission & distribution and buildings construction. In May 2017, the company bagged an order worth ₹ 3.37 bn in Jharkhand by NHAI on EPC contract. Earlier in Apr 2017, the company was awarded a project worth ₹ 5.47 bn in Uttar Pradesh by Kanpur Development Authority.

## Sadbhav Engineering Limited

Sadbhav House, Opp. Law Garden Police Chowki, Ellisbridge, Ahmedabad - 380006, Gujarat  
Website: www.sadbhaveng.com

### About the company

Sadbhav Engineering Ltd (SEL) was incorporated in 1988 and undertakes engineering, construction and infrastructure development activities across transport, mining and irrigation sectors. Under transport sector, SEL undertakes upgrading, widening, strengthening and maintenance of roads and highways along with BOT road projects. Under mining, the company undertakes excavation of overburden, rock, coal, lignite and uranium ore and under irrigation, SEL executes projects like construction of dams, canal siphons, remodelling and improvement of canals. As on Jun 30 2017, the order book position of SEL stood at ₹ 83.77 bn comprising of 69% of transport, 11% irrigation and 20% mining projects. In Mar 2017, it signed EPC agreement worth ₹ 8.55 bn with Sadbhav Bangalore Highway Pvt Ltd for maintenance and repair works.

### Dun & Bradstreet D-U-N-S® No 67-593-7487

Financial Snapshot (₹ Mn)	
Total Income	3,663.4
Net Profit	238.6
Total Assets	4,580.1
Ratios (%)	
NPM	6.5
ROA	5.8
Current Ratio	1.5

(As on March 31, 2017)

### Dun & Bradstreet D-U-N-S® No 92-034-2123

Financial Snapshot (₹ Mn)	
Total Income	17,710.6
Net Profit	572.2
Total Assets	32,620.1
Ratios (%)	
NPM	3.2
ROA	1.7
Current Ratio	0.8

(As on March 31, 2017)

### Dun & Bradstreet D-U-N-S® No 91-665-8177

Financial Snapshot (₹ Mn)	
Total Income	34,078.4
Net Profit	1,878.5
Total Assets	40,203.1
Ratios (%)	
NPM	5.5
ROA	5.0
Current Ratio	1.4

(As on March 31, 2017)



## Shriram EPC Limited

18/3, Sigappi Achi Building, Rukmani Lakshmpathi Salai, Egmore, Chennai – 600008, TN  
Website: www.shriramepc.com

### About the company

Shriram EPC Ltd (SEPC) was incorporated in 2000. SEPC provides high-end engineering services providing EPC and turnkey solutions under business segments namely; process & metallurgy, power, water infrastructure and mining & mineral processing. The power segment undertakes turnkey contracting for biomass, thermal, solar thermal power plants and wind farms. Under water infrastructure, SEPC offers design & implementation of environmental projects such as water & sewage treatment plants, intake wells & pump- houses, underground drainage system, water distribution and pipe rehabilitation. As on Mar 2017, the standalone order book position of the company stood at ₹ 19.52 bn. In Jun 2017, the company bagged EPC orders worth ₹ 1.65 bn under water management business.

### Dun & Bradstreet D-U-N-S® No 65-057-6247

Financial Snapshot (₹ Mn)	
Total Income	5,300.0
Net Profit	(2,317.4)
Total Assets	30,603.8
Ratios (%)	
NPM	(43.7)
ROA	(7.7)
Current Ratio	1.7

(As on March 31, 2017)

## Simplex Infrastructure Limited

Simplex House, 27, Shakespeare Sarani, Kolkata - 700017, WB  
Website: www.simplexinfra.com

### About the company

Simplex Infrastructures Ltd (Simplex Infra), established in 1924, undertakes projects in various sectors such as transport, energy and power, mining, buildings, marine and real estate among others. The company has executed over 2,800 projects across all construction verticals such as ground engineering, industrial, building & housing, power & transmission, marine ports, roads, railways & bridges and urban infrastructure. Major projects executed by Simplex Infra include Beaumonde Towers, Jaiktkhamb Tower, Kathipara Bridge, Hotel Hilton-Doha and Aurgam Bay Bridge, Srilanka. Some of the major clients of the company include L&T, NTPC, ACC, IOCL, Qatar Petroleum, Tata Steel and Bharat Oman Refineries Ltd. As on Jun 2017, the company had an order book of ₹ 164.19 bn, which is diversified across over 242 contracts, nine verticals and nine countries.

### Dun & Bradstreet D-U-N-S® No 91-564-9734

Financial Snapshot (₹ Mn)	
Total Income	56,965.6
Net Profit	1,202.7
Total Assets	84,176.2
Ratios (%)	
NPM	2.1
ROA	1.5
Current Ratio	1.1

(As on March 31, 2017)

## Simplex Projects Limited

2/1, Nellie Sengupta Sarani, Kolkata - 700087, WB  
Website: www.simplexprojects.com

### About the company

Simplex Projects Ltd (SPL) was incorporated in 1990. It is engaged in providing civil engineering and turnkey construction projects. The company undertakes projects in the field of road, rail-over-bridges, residential and commercial buildings, power plants, chemical factories, multiplexes, shopping malls, piling and foundation, transportation engineering, high-rise buildings, residential housing complexes, commercial complexes and shopping malls, hospitals, irrigation amongst others. Some of its ongoing projects include construction of road over bridge on Koderma station limit for East Central Railway; construction of stone piling at BTP, Bihar for MRB Engineers & Contractors Pvt Ltd; construction of automated multilevel car parking at Jorbagh for CPWD and construction of Arunachal Pradesh Civil Secretariat Building at Itanagar.

### Dun & Bradstreet D-U-N-S® No 87-180-3038

Financial Snapshot (₹ Mn)	
Total Income	4,971.9
Net Profit	27.4
Total Assets	18,434.3
Ratios (%)	
NPM	0.6
ROA	0.1
Current Ratio	1.7

(As on March 31, 2017)



## Sunil Hitech Engineers Limited

MET Educational Complex, Bandra Reclamation, Bandra (W), Mumbai - 400050, Maharashtra  
Website: [www.sunilhitech.com](http://www.sunilhitech.com)

### About the company

Sunil Hitech Engineers Ltd (SHEL) was incorporated in 1998 and acquired its present name in 2005. SHEL undertakes EPC and construction projects in the areas of road & bridges, building works of institutions, hospitals and housing projects, cross country pipeline, civil & mechanical works of power and steel plants, cooling towers, chimneys, etc. In FY17, it ₹ 27.61 bn of new orders taking the order book to ₹ 47.10 bn, as of Jan 2017, with 37% of civil and structural projects, 37% road projects, 19% building projects and 2% boilers and auxiliary projects. In April 2017, the company was awarded four road projects worth ₹ 9.36 bn. Some of the other orders bagged by the company include a road project worth ₹ 9.82 bn in Maharashtra on hybrid annuity mode, a road EPC project worth ₹ 4.34 bn in Arunachal Pradesh and mass housing project worth ₹ 4.15 bn in Bihar.

### Dun & Bradstreet D-U-N-S® No 67-666-6170

Financial Snapshot (₹ Mn)	
Total Income	21,045.7
Net Profit	400.7
Total Assets	17,168.3
Ratios (%)	
NPM	1.9
ROA	2.5
Current Ratio	1.4

(As on March 31, 2017)

## Tata Power Solar Systems Limited

78, Electronics City, Phase I, Hosur Road, Bengaluru - 560100, Karnataka  
Website: [www.tatapowersolar.com](http://www.tatapowersolar.com)

### About the company

Tata Power Solar Systems Ltd (Tata Power Solar) works in three distinct portions – assembling of solar oriented modules, EPC services for solar based projects and making innovative solar based items. They are working steadily to give access to energy particularly in the remote, off-matrix parts of India, which makes them the most trusted solar oriented power organization in the nation. The company has installed 320 MW of EPC projects till date including O&M services and 117 MW of Solar roof top projects. With the environmental friendly projects, they have been able to reduce the carbon foot print by 9.5 million tonnes till date. They have revolutionized the solar power industry and its application by making it available and accessible to all ranging from steel industry to hundreds of villages.

### Dun & Bradstreet D-U-N-S® No 86-023-9442

Financial Snapshot (₹ Mn)	
Total Income	22,626.1
Net Profit	779.9
Total Assets	17,508.0
Ratios (%)	
NPM	3.4
ROA	5.7
Current Ratio	1.0

(As on March 31, 2017)

## Tata Projects Limited

Mithona Tower-I, 1-7-80 to 87, Prenderghast Road, Secunderabad - 500003, AP  
Website: [www.tataproyects.com](http://www.tataproyects.com)

### About the company

Tata Projects Ltd (TPL), part of the Tata Group, was established in 1979. The company undertakes EPC contracts in various infrastructure fields. TPL operates under 4 strategic business units viz. industrial infrastructure, urban infrastructure, quality services and utility services. The company's order book position stood at ₹ 202.69 bn at the end of FY17, resulting in the total order backlog of ₹ 292.1 bn. In FY17, some major contracts awarded to the company include two thermal power generation projects for Balance of Plant (BoP) works 1\*800 MW, Super Critical Thermal Power Plant (Stage-2 of APPDCL, located at Krishnapatnam) at a contract value of ₹ 26.6 bn; and 2x800 MW Super Thermal Power Plant at a contract value of ₹ 20.55 bn; and 400 kV and 230 kV Transmission Line (TL) in Ethiopia at a contract value of ₹ 9.24bn to name a few.

### Dun & Bradstreet D-U-N-S® No 67-611-4561

Financial Snapshot (₹ Mn)	
Total Income	60,536.1
Net Profit	1,111.6
Total Assets	67,560.8
Ratios (%)	
NPM	1.8
ROA	1.8
Current Ratio	1.1

(As on March 31, 2017)





## Techno Electric and Engineering Company Limited

P-46A, Radha Bazar Lane, Kolkata - 700001, WB  
Website: www.techno.co.in

### About the company

Techno Electric and Engineering Company Ltd (TEECL) was established in 1963 and in 2006 it entered into the business of captive waste heat recovery systems. The company provides engineering, procurement and construction services across the country's power generation, transmission and distribution segments. It operates in three business segments namely; EPC, generation and transmission linkages. Some of the major clients of the company include PGCIL, IOCL, NEEPCO, ABB, Bharat Oman Refineries, NHPC, Reliance Energy, Vedanta Aluminium, Thermax Ltd and Lanco Industries. As on May 29 2017, its order book position stood at ₹ 26 bn. In Jan 2017, the company sold 33 MW wind power assets situated in Tamil Nadu at an effective valuation of ₹ 1.65 bn.

### Dun & Bradstreet D-U-N-S® No 86-905-5739

Financial Snapshot (₹ Mn)	
Total Income	12,780.3
Net Profit	1,454.7
Total Assets	13,275.2
Ratios (%)	
NPM	11.4
ROA	11.3
Current Ratio	2.2

(As on March 31, 2017)

## Thermax Engineering Construction Company Limited

Thermax House, 14, Mumbai – Pune Road, Wakdevadi, Pune - 411003, Maharashtra  
Website: www.thermaxglobal.com

### About the company

Thermax Engineering Construction Company Ltd (Thermax Engineering) is engaged in erection and commissioning of boilers. The company undertakes constructing boilers and heaters for the oil, power, chemicals, fertilizers, food, dairy, pharma, textile, cement, sugar and other allied industries. Services offered by the company include fabrication and erection of structural steel, ducting, piping and pipe rack works; refractory, painting and insulation works; assistance in testing and commissioning; project construction management; retrofit and revival jobs of boiler, heaters and ESPs; and electrical & instrumentation works amongst others. Some of the major clients of the company include RIL, IOCL, HPCL, TISCO, BPCL, HMEL, and many more. In FY17, its order book stood at ₹ 38.3 bn while the order backlog at the end of FY17 was at ₹ 36.2 bn.

### Dun & Bradstreet D-U-N-S® No 86-003-6886

Financial Snapshot (₹ Mn)	
Total Income	2,384.9
Net Profit	3.4
Total Assets	1,443.7
Ratios (%)	
NPM	0.1
ROA	0.2
Current Ratio	1.2

(As on March 31, 2017)

## VA Tech Wabag Limited

WABAG House, No.17, 200 Feet, Sunnambu Kolathur, Chennai - 600117, TN  
Website: www.wabag.com

### About the company

VA Tech Wabag Ltd (Wabag) was incorporated in 1996 and is engaged in municipal and industrial water and wastewater treatment. It provides complete water solutions including conceptualising, financing, design & engineering, procurement, equipment supply, construction, installation & commissioning and operation & maintenance. Wabag provides turnkey solutions in the areas of drinking water treatment, industrial waste water treatment, municipal used water treatment, industrial effluent treatment, desalination of sea & brackish water, and water reclamation amongst others. In FY17, the company received new orders worth more than ₹ 36 bn, taking the total order book to around ₹ 82 bn, including framework contracts as on March 31, 2017. In July 2017, the company won a repeat order of ₹ 3.86 bn for sewage treatment plant from BWSSB.

### Dun & Bradstreet D-U-N-S® No 65-067-1902

Financial Snapshot (₹ Mn)	
Total Income	18,196.3
Net Profit	749.8
Total Assets	22,724.4
Ratios (%)	
NPM	4.1
ROA	3.6
Current Ratio	1.4

(As on March 31, 2017)



## Welspun Enterprises Limited

Welspun City, Village Versamedi, Taluka Anjar, Dist Kutch - 370110, Gujarat  
Website: [www.welspunenterprises.com](http://www.welspunenterprises.com)

### About the company

Welspun Enterprises Ltd (WEL), formerly known as Welspun Projects Ltd, is a part of Welspun group. WPL is an infrastructure development company and is engaged in the business of EPC projects across roads, water, industrial structures and other PPP projects. It operates in the renewable energy and oil & gas exploration space through Welspun Energy Pvt Ltd and Welspun Natural Resources Pvt Ltd respectively. It has completed six BOT (Toll) road projects with a total length of over 500 km. In July 2017, WEL agreed to acquire 49% stake in two NHAI Hybrid Annuity Model (HAM) projects from MBL Group, thus expanding its HAM project portfolio to three projects. During FY17, the company through its joint venture interest, Adani Welspun Exploration Ltd, bagged the area B-9 Cluster by the GoI in the Discovered Small Field Bids Round (DSF 2016).

Dun & Bradstreet D-U-N-S® No 65-064-9895

Financial Snapshot (₹ Mn)	
Total Income	3,982.6
Net Profit	432.7
Total Assets	16,597.0
Ratios (%)	
NPM	10.9
ROA	2.6
Current Ratio	5.1

(As on March 31, 2017)







# BRING ABOUT A **REFRESHING CHANGE**

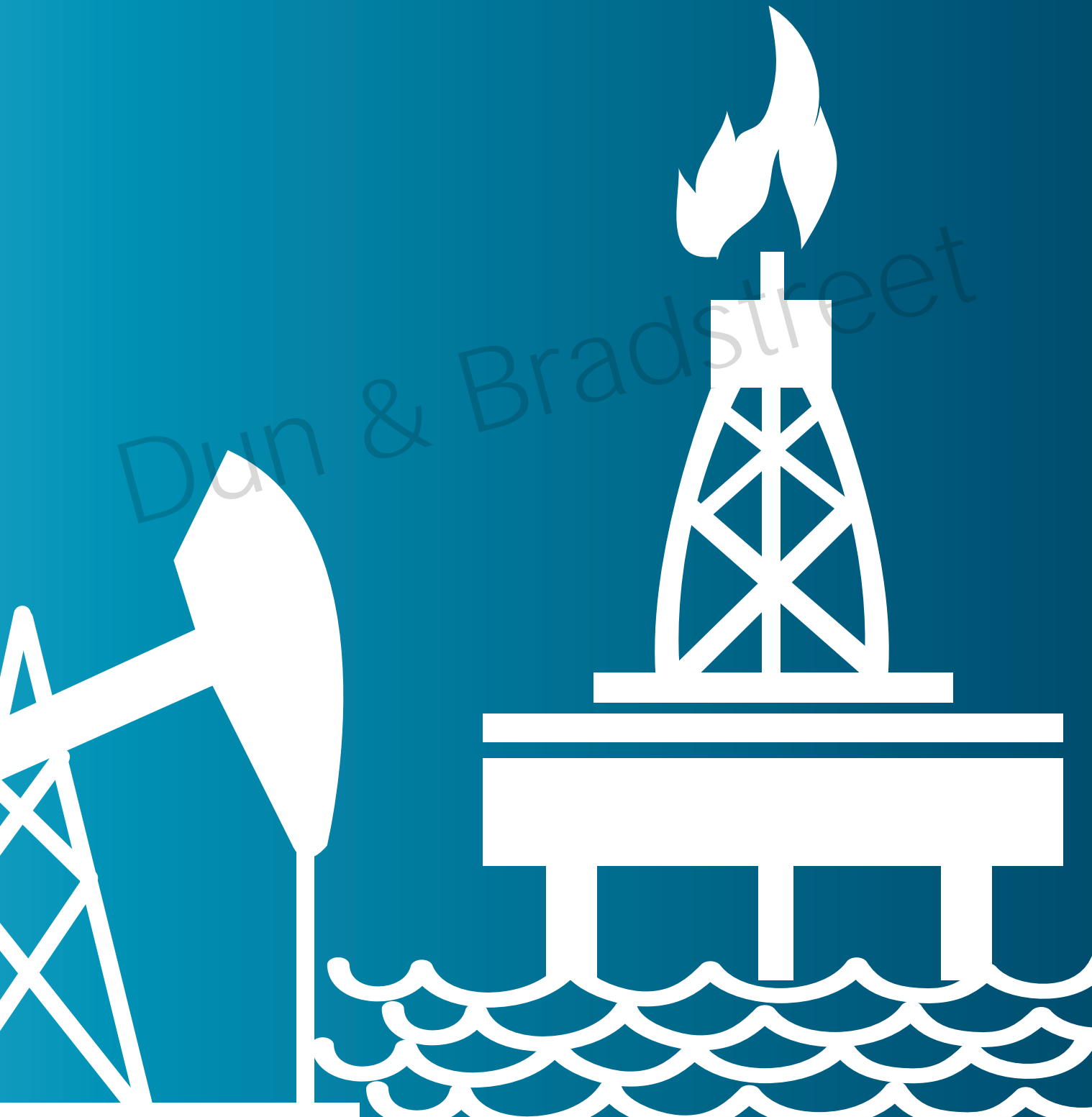
- Switch to Natural Gas, a Greener Fuel
- Use Public Transport
- Ensure Pollution-Free Air



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# Oil & Gas



## Aban Offshore Limited

"Janpriya Crest" 113 Pantheon Road, Egmore, Chennai - 600008, TN  
Website: [www.abanoffshore.com](http://www.abanoffshore.com)

### About the company

Aban Offshore Ltd (AOL) was incorporated in 1986 to provide offshore drilling services. The company provides offshore drilling services worldwide including; offshore exploration, drilling, production of hydrocarbons and manning & management. The drilling and production division owns and operates 15 jack-ups, two drill ships and one floating production unit. As on Mar 31, 2016, it operated rigs across seven locations. The company also operates in wind energy business that generated 2.29 mn units of power (net) in FY16. Its wind farms are located across Radhapuram, Pazhavor and Kavalkinaru in Tirunelveli District of South Tamil Nadu. The company's operations extend to major global locations like the UAE, Singapore, Norway, Malaysia, Vietnam, Brunei, Brazil and Mexico.

### Dun & Bradstreet D-U-N-S® No 86-441-9706

Financial Snapshot (₹ Mn)	
Total Income	9,397.8
Net Profit	2,111.4
Total Assets	59,015.8
Ratios (%)	
NPM	22.5
ROA	3.6
Current Ratio	1.3

(As on March 31, 2017)

## Bharat Petroleum Corporation Limited

Bharat Bhavan, 4 & 6 Currimbhoy Road, Ballard Estate, Mumbai - 400001, Maharashtra  
Website: [www.bharatpetroleum.in](http://www.bharatpetroleum.in)

### About the company

Bharat Petroleum Corporation Ltd (BPCL) was formed in 1928, as an alliance between Asiatic Petroleum (India) and Burmah Oil Company. In 1952, the company was incorporated as Burmah Shell Refineries Ltd. In 1976, GoI took over the Burmah Shell Group to form Bharat Refineries Ltd and in the following year renamed it as BPCL. BPCL operations are classified into two segments, downstream petroleum business, which is engaged in refining and marketing of petroleum products and exploration and production (E&P) of hydrocarbons. BPCL operates two refineries at Mumbai and Kochi along with 82 retail (installations/depots/TOPs) 49 LPG bottling plants, four lube blending plants and 30 aviation / fuelling stations/on-wheels. During FY17, BPCL's crude throughput stood at 25.39 MMT, while the sales stood at 37.68 MMT in FY17.

### Dun & Bradstreet D-U-N-S® No 65-007-8793

Financial Snapshot (₹ Mn)	
Total Income	2,446,485.0
Net Profit	80,393.0
Total Assets	919,896.3
Ratios (%)	
NPM	3.3
ROA	9.6
Current Ratio	0.8

(As on March 31, 2017)

## Chennai Petroleum Corporation Limited

New No: 536, Anna Salai, Teynampet, Chennai - 600018, TN  
Website: [www.cpcl.co.in](http://www.cpcl.co.in)

### About the company

Chennai Petroleum Corporation Ltd (CPCL), formerly known as Madras Refineries Ltd was formed as a JV between the GoI, AMOCO and National Iranian Oil Company in 1965. CPCL has two refineries located at Chennai and Panangudi in TN with a combined refining capacity of 11.5 MMTPA. The Manali Refinery has a capacity of 10.5 MMTPA and is one of the most complex refineries in India with Fuel, Lube, Wax and Petrochemical feedstocks production facilities. CPCL's second refinery is located at Cauvery Basin at Nagapattinam. This unit was set up in Nagapattinam with a capacity of 0.5 MMTPA in 1993 and later enhanced to 1.0 MMTPA. The main products of the company are LPG, Motor Spirit, Superior Kerosene, Aviation Turbine Fuel, High Speed Diesel, Naphtha, Bitumen, Lube Base Stocks, Paraffin Wax, Fuel Oil, Hexane and Petrochemical feed stocks.

### Dun & Bradstreet D-U-N-S® No 67-650-0875

Financial Snapshot (₹ Mn)	
Total Income	406,475.7
Net Profit	10,297.5
Total Assets	114,955.7
Ratios (%)	
NPM	2.5
ROA	9.4
Current Ratio	0.8

(As on March 31, 2017)



## GAIL (India) Limited

GAIL Bhawan, 16 Bhikaji Cama Place, R K Puram, New Delhi - 110066, Delhi  
Website: [www.gailonline.com](http://www.gailonline.com)

### About the company

GAIL (India) Ltd (GAIL) was incorporated in 1984. The company is primarily engaged in the marketing and transmission of natural gas and LPG, petrochemicals, production of LPG and other liquid hydrocarbons. It is also engaged in city gas distribution, E&P, telecom & telemetry services through GAILTEL and gas-based power generation. GAIL has created a wide network of natural gas pipelines covering more than 11,000 km with a capacity of around 206 MMSCMD, two LPG pipelines covering more than 2,000 km with a capacity of 3.8 MMTPA, seven gas processing plants for LPG and other liquid hydrocarbons with a production capacity of 1.4 MMTPA and a gas based integrated petrochemical plant of 410,000 TPA polymer capacity. In Aug 2017, GAIL commenced the construction work in Kerala stretch of Kochi-Koottanad-Mangaluru-Bengaluru pipeline.

### Dun & Bradstreet D-U-N-S® No 65-007-1269

Financial Snapshot (₹ Mn)	
Total Income	500,592.6
Net Profit	35,029.1
Total Assets	562,699.9
Ratios (%)	
NPM	7.0
ROA	6.3
Current Ratio	1.1

(As on March 31, 2017)

## Gujarat State Petronet Limited

GSPC Bhavan, Behind Udyog Bhavan, Sector - 11, Gandhinagar - 382010, Gujarat  
Website: [www.gspcgroup.com](http://www.gspcgroup.com)

### About the company

Gujarat State Petronet Ltd (GSPL), a GSPL Group company was incorporated in 1998. The company is primarily engaged in transmission of natural gas through pipeline on an open access basis from supply points to demand centres. It has also ventured in selling electricity generated through windmills. GSPL manages and operates the largest gas transmission network in Gujarat totalling to 2,454 kms as on Mar 31, 2017. The gas grid of the company covers 25 of districts in Gujarat. In addition, the company through special purpose vehicles, namely GSPL India Gasnet Ltd and GSPL India Transco Ltd is undertaking development of three pan-India pipeline projects namely Mallavaram - Bhopal - Bhilwara - Vijapur pipeline, Mehsana - Bhatinda Pipeline and Bhatinda - Jammu - Srinagar Pipeline.

### Dun & Bradstreet D-U-N-S® No 91-959-1065

Financial Snapshot (₹ Mn)	
Total Income	11,157.6
Net Profit	4,966.4
Total Assets	58,333.7
Ratios (%)	
NPM	44.5
ROA	8.5
Current Ratio	3.3

(As on March 31, 2017)

## Hindustan Petroleum Corporation Limited

Petroleum House, 17, Jamshedji Tata Road, Churchgate, Mumbai - 400020, Maharashtra  
Website: [www.hindustanpetroleum.com](http://www.hindustanpetroleum.com)

### About the company

Hindustan Petroleum Corporation Ltd (HPCL), a GoI enterprise, was incorporated in 1952 as Standard Vacuum Refining Company Ltd. In 1974, the company acquired its present name after the takeover and merger of erstwhile Esso Standard Refining Company of India Ltd and Lube India Ltd. The company's major activities include downstream petroleum business and E&P of hydrocarbons. It is mainly engaged in the refining and marketing of petroleum products. HPCL operates two refineries in Mumbai and Visakh. The company's network encompasses 119 regional offices, 42 terminals/ tap off points, 40 depots, 47 LPG bottling plants, 14,412 retail outlets, 37 ASFs, 1,638 SKO / LDO dealers and 4,532 LPG distributors as on Mar 31, 2017. During FY17, HPCL's refineries had a combined refining throughput of 17.81 MMT.

### Dun & Bradstreet D-U-N-S® No 65-005-4943

Financial Snapshot (₹ Mn)	
Total Income	2,153,177.1
Net Profit	62,088.0
Total Assets	784,639.1
Ratios (%)	
NPM	2.9
ROA	8.4
Current Ratio	0.9

(As on March 31, 2017)



## Indian Oil Corporation Limited

Indian Oil Bhavan, G-9, Ali Yavar Jung Marg, Bandra (E), Mumbai - 400051, Maharashtra  
Website: [www.iocl.com](http://www.iocl.com)

### About the company

Indian Oil Corporation Ltd (IOCL), a Maharatna company, was established in 1959 as the Indian Oil Company. IOCL's business operations encompass the entire hydrocarbon value chain - from refining, pipeline transportation and marketing of petroleum products to exploration and production of crude oil and gas as well as marketing of natural gas and petrochemicals. IOCL operates 10 domestic and 7 overseas refineries blocks. The company's has 384 active patents, inclusive of 233 international patents. During FY16, IOCL's refineries throughput increased from 53.6 MMTPA in FY15 to 56.7 MMTPA and pipelines throughput from 75.7 MMTPA in FY15 to 79.8 MMTPA. In September 2016, the company signed an MoU with Dharma LNG Terminal Pvt Ltd for taking equity in the upcoming 5MMTPA capacity LNG terminal at Dhamra port, Odisha.

## Indraprastha Gas Limited

IGL Bhawan, Community Centre, Sector-9, R.K. Puram, New Delhi - 110022, Delhi  
Website: [www.iglonline.net](http://www.iglonline.net)

### About the company

Indraprastha Gas Ltd (IGL) was incorporated in 1998 to lay the network for the distribution of natural gas in Delhi. It is involved in the business of distributing CNG to automotive sector and PNG to domestic and commercial sectors in Delhi and NCR regions. IGL increased its steel pipeline network from 680 kms in FY15 to 707 kms and its MDPE network from 8967 kms in FY15 to 9443 kms in FY16. As on Mar 31 2016, it operated a wide network of 340 CNG stations comprising of 294 stations in Delhi and 46 stations in NCR. In FY16, IGL augmented its CNG distribution infrastructure by enhancing the installed compression capacity to 68.83 lakhs Kg/day. During FY16, IGL provided 46,229 PNG connections in Delhi and 29,337 PNG connections in the NCR, taking the to 6,36,318 in Mar 2016. In FY16, IGL served around 2,632 commercial and industrial customers.

## Jindal Drilling & Industries Limited

Pipe Nagar, Village Sukeli, BKG Road, Taluka-Roha, Dist. Raigad - 402126, Maharashtra  
Website: [www.jindal.com/jdil/](http://www.jindal.com/jdil/)

### About the company

Jindal Drilling & Industries Ltd (JDIL), incorporated in 1983. JDIL's business is divided into three operating segments via offshore drilling for oil & gas, horizontal and directional drilling; and mud logging services. Under offshore drilling, the company deals with various types of rigs including; drilling barges, jackup rigs, submersible rigs, semi-submersible rigs and drill ships. As on Mar 2016, the company operated one jack up rig, 16 directional drilling units along with split units on call and 11 mud logging units. Its rigs & directional drilling equipment operate at Mumbai offshore. In FY16, it commenced operation of another Rig "Rowan Louisiana" under the contract awarded by ONGC. ONGC, OIL, Essar, GSPC, Naftogaz India, Canaro Resources LTD and GEOENPRO are some of its prominent clients.

### Dun & Bradstreet D-U-N-S® No 65-004-9216

Financial Snapshot (₹ Mn)	
Total Income	4,495,814.9
Net Profit	191,064.0
Total Assets	2,592,132.7
Ratios (%)	
NPM	4.2
ROA	8.0
Current Ratio	0.9

(As on March 31, 2017)

### Dun & Bradstreet D-U-N-S® No 87-122-2454

Financial Snapshot (₹ Mn)	
Total Income	42,877.3
Net Profit	5,710.7
Total Assets	40,861.3
Ratios (%)	
NPM	13.3
ROA	15.3
Current Ratio	1.4

(As on March 31, 2017)

### Dun & Bradstreet D-U-N-S® No 87-680-2363

Financial Snapshot (₹ Mn)	
Total Income	3,977.7
Net Profit	169.7
Total Assets	10,144.4
Ratios (%)	
NPM	4.3
ROA	1.6
Current Ratio	2.6

(As on March 31, 2017)





## L&T Hydrocarbon Engineering Limited

L&T House, N. M. Marg, Ballard Estate, Mumbai - 400001, Maharashtra  
Website: [www.lnthydrocarbon.com](http://www.lnthydrocarbon.com)

### About the company

L&T Hydrocarbon Engineering Ltd (L&T Hydrocarbon) was formed in 2009 and is primarily engaged in engineering, procurement, fabrication, construction and project management activity. It also provides 'design to build' solutions to large and complex offshore and onshore hydrocarbon projects across the world. The company is mainly structured into five verticals namely Onshore, Offshore, Construction Services, Modular Fabrication and Engineering Services. Under construction segment, it offers turnkey construction of refinery, petrochemical, chemical and fertiliser projects, gas gathering stations, crude oil & gas terminals, underground cavern storage systems for LPG covering, etc. It provides engineering services to a diverse clientele including owner-operators of hydrocarbon processing facilities, global EPC contractors and engineering consultants.

### Dun & Bradstreet D-U-N-S® No 65-076-4348

Financial Snapshot (₹ Mn)	
Total Income	88,449.3
Net Profit	4,363.2
Total Assets	64,769.2
Ratios (%)	
NPM	4.9
ROA	7.3
Current Ratio	1.1

(As on March 31, 2017)

## Mangalore Refinery and Petrochemicals Limited

Mudapadav, Kuthethoor, P.O. Via Katipalla, Mangalore - 575030, Karnataka  
Website: [www.mrpl.co.in](http://www.mrpl.co.in)

### About the company

Mangalore Refinery and Petrochemicals Ltd (MRPL) was established in 1988 as a JV between Hindustan Petroleum Corporation Ltd and IRIL & Associates. In 2003, ONGC acquired the total shareholding of IRIL & Associates thus making MRPL a majority held subsidiary of ONGC. The company is a Schedule 'A' Central Public Sector Enterprise (CPSE). It is engaged in the business of refining crude oil. MRPL has a design capacity to process 15 mmtpa and has two hydrocrackers producing premium diesel (high cetane). The company also has two CCRs producing unleaded petrol of high octane. During FY17, it achieved its highest-ever crude throughput of 16.27 MMT, against the previous highest of 15.69 MMT in FY16. MRPL processed new crudes during the year, namely pazflor (High TAN), yombo and soorosh.

### Dun & Bradstreet D-U-N-S® No 65-017-8924

Financial Snapshot (₹ Mn)	
Total Income	598,536.9
Net Profit	36,436.9
Total Assets	264,046.2
Ratios (%)	
NPM	6.1
ROA	11.4
Current Ratio	0.9

(As on March 31, 2017)

## Numaligarh Refinery Limited

22A, G. S. Road, Christianbasti, Guwahati - 781005, Assam  
Website: [www.nrl.co.in](http://www.nrl.co.in)

### About the company

Numaligarh Refinery Ltd (NRL) was incorporated in Apr 1993 NRL has been accorded with the Miniratna Category – I CPSE by GoI. Currently BPCL is the major shareholder in NRL with 61.65% share followed by Oil India and Govt of Assam with 26% and 12.35% share respectively. The company is primarily engaged in refining of crude oil. NRL produces LPG, Naphtha, MS, ATF, SKO, HSD, RPC, CPC and sulphur as its major products. As on Mar 31 2017, NRL had a total installed capacity of 3 MMTPA. In FY17, NRL processed 2.68 MMT of crude oil achieving a capacity utilization of 89%. NRL achieved distillate yield of 90.5% and sold 2.68 MMT of petroleum products in FY17. During the same period, the company produced 2.65 MMT of crude oil which included 1.3 MMT BS-III grade HSD, 0.49 MMT of BS-IV HSD, 0.38 MMT of BS-III MS, and 0.16 MMT of BS-IV MS.

### Dun & Bradstreet D-U-N-S® No 65-068-4640

Financial Snapshot (₹ Mn)	
Total Income	143,172.1
Net Profit	21,005.7
Total Assets	72,374.9
Ratios (%)	
NPM	14.7
ROA	30.6
Current Ratio	3.2

(As on March 31, 2017)



## Oil and Natural Gas Corporation Limited

5, Nelson Mandela Marg, Vasant Kunj, New Delhi - 110070, Delhi  
Website: [www.ongcindia.com](http://www ONGCIndia.com)

### About the company

Oil and Natural Gas Corporation Ltd (ONGC) was set up as Oil and Natural Gas Directorate in 1955 which subsequently became Oil and Natural Gas Commission in the year 1956. ONGC is involved in the E&P business of crude oil and natural gas. ONGC manages 250 onshore production installations, 215 offshore installations, 77 drilling (plus 31 hired) and 57 work-over rigs (plus 25 hired), owns and operates more than 28,139 kms of pipeline in India, including 4,500 kms of sub-sea pipelines. ONGC owns and operates more than 26,600 kms of pipelines in India, including sub-sea pipelines. The domestic production of crude oil increased to 22.22.36 MMT in FY16. ONGC signed agreements for enhancement of production from its matured onshore fields of Geleki in Assam and Kalol in Gujarat, respectively, in Dec 2016.

## Oil India Limited

P. O. Duliajan, Dibrugarh - 786602, Assam  
Website: [www.oil-india.com](http://www.oil-india.com)

### About the company

Oil India Ltd (OIL), a Navratna company was incorporated 1959 and is engaged in the business of exploration and production of crude oil, natural gas and LPG. The company also operates a network of 1,220 kms of crude oil pipelines which can transport over 5.38 MTPA of crude oil. In FY16, OIL produced 3.247 MMT of crude oil, 2,838 MMSCM of natural gas and 41,030 MT of LPG. In FY16, the company's crude oil pipeline transported 6.37 MMT of crude oil. The company also commissioned its second solar energy power project of 9 MWp capacity at Ramgarh, Rajasthan in Feb 2016. In Apr 2017, OIL made two hydrocarbon discoveries in the Moran petroleum mining lease in the Upper Assam Basin. In Jun 2017, the company made one hydrocarbon discovery in the Baghjan petroleum mining lease in the Upper Assam Basin.

## Petronet LNG Limited

World Trade Center, Babar Road, Barakhamba Lane, New Delhi - 110001, Delhi  
Website: [www.petronetlng.com](http://www.petronetlng.com)

### About the company

Petronet LNG Ltd (PLL) was incorporated in 1998, and is jointly promoted by GAIL, ONGC, IOCL and BPCL. The company is primarily engaged in the import and re-gasification of Liquefied Natural Gas (LNG) and in the setting up of LNG terminals in India. The company also provides regasification services to companies who import LNG directly. Among the major suppliers of LNG to PLL are the Qatar-based RasGas and Australia-based Exxon Mobil. PLL set up the country's first LNG receiving and regasification terminal at Dahej, Gujarat, and another terminal at Kochi, Kerala. In FY17, the company expanded the capacity of its Dahej terminal from 10 MMTPA to 15 MMTPA in the last. Two storage tanks with a capacity of 1,70,000 (net) m3 each and regasification unit of 5 MMTPA were added in the expansion process.

### Dun & Bradstreet D-U-N-S® No 65-006-5345

Financial Snapshot (₹ Mn)	
Total Income	854,558.5
Net Profit	178,999.8
Total Assets	2,472,494.9
Ratios (%)	
NPM	20.9
ROA	7.6
Current Ratio	1.6

(As on March 31, 2017)

### Dun & Bradstreet D-U-N-S® No 67-563-7648

Financial Snapshot (₹ Mn)	
Total Income	111,910.7
Net Profit	15,486.8
Total Assets	453,395.5
Ratios (%)	
NPM	13.8
ROA	3.7
Current Ratio	3.6

(As on March 31, 2017)

### Dun & Bradstreet D-U-N-S® No 85-915-6997

Financial Snapshot (₹ Mn)	
Total Income	249,626.7
Net Profit	17,056.7
Total Assets	138,291.0
Ratios (%)	
NPM	6.8
ROA	13.0
Current Ratio	2.3

(As on March 31, 2017)



## Reliance Industries Limited

Maker Chambers - IV, 222, Nariman Point, Mumbai - 400021, Maharashtra  
Website: [www.ril.com](http://www.ril.com)

### About the company

Reliance Industries Ltd (RIL) was incorporated in 1973 and is mainly engaged in hydrocarbon exploration and production, petroleum refining and marketing, petrochemicals, retail and telecommunications. The company owns and operates through two refineries with crude processing capacity of 1.24 MMBPD. During FY17, RIL's refineries processed 65 different grades of crude including five new grades. The company had a domestic retail network of 1,221 operational fuel outlets operational as on Mar 31, 2017. The company's overall petrochemicals production was 24.9 MMT in FY17. In Jan 2017, RIL signed an MoU with Russia's SIBUR to set up South Asia's first butyl rubber halogenation unit at RIL's integrated petrochemical site in Jamnagar, Gujarat. In Dec 2016, RIL commissioned its new paraxylene plant at Jamnagar with a capacity of 2.2 MMTPA.

### Dun & Bradstreet D-U-N-S® No 65-005-3135

Financial Snapshot (₹ Mn)	
Total Income	2,737,500.0
Net Profit	314,250.0
Total Assets	5,467,460.0
Ratios (%)	
NPM	11.5
ROA	6.1
Current Ratio	0.7

(As on March 31, 2017)



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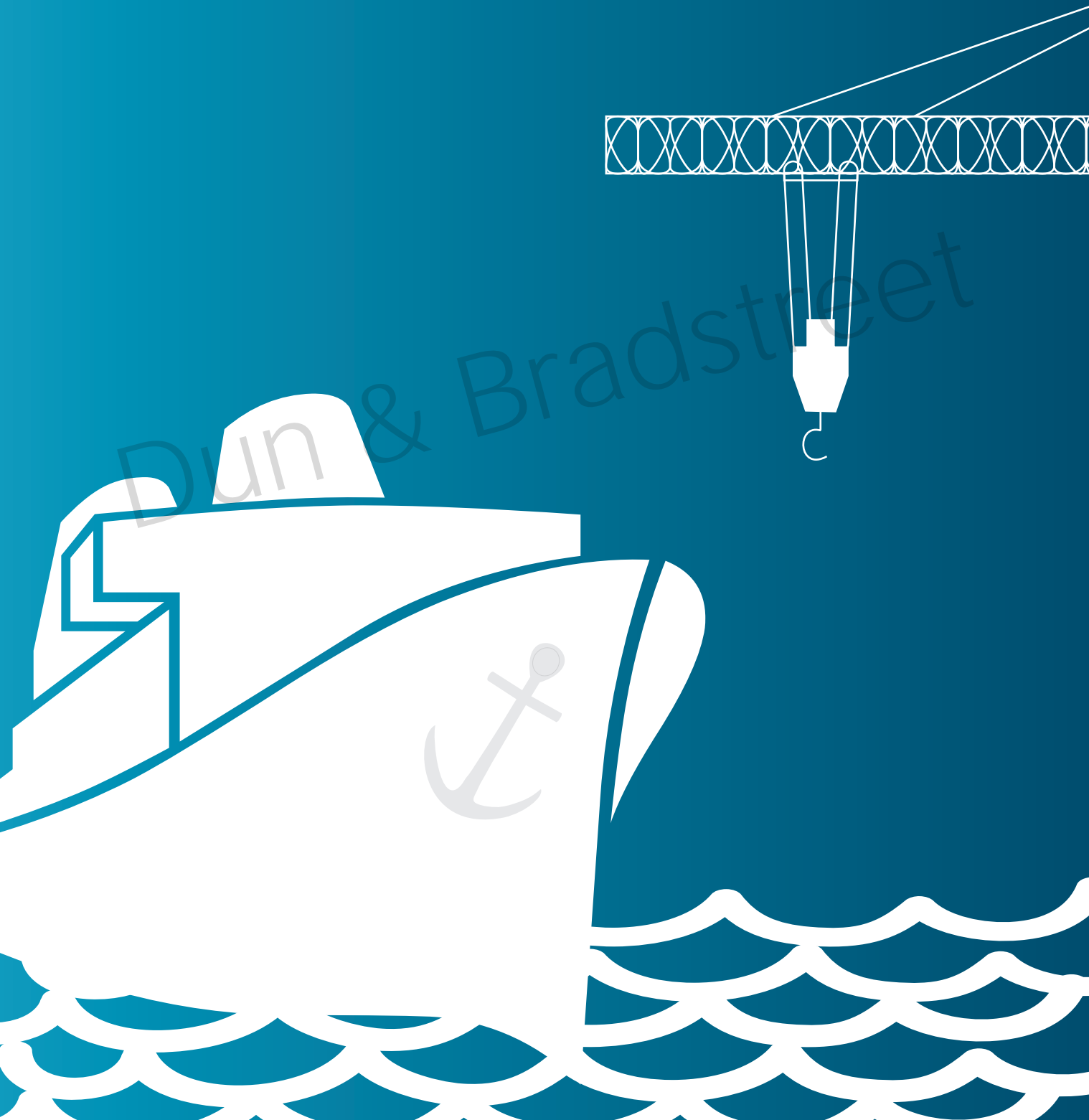
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# Ports



## Adani Ports and Special Economic Zone Limited

Adani House, Near Mithakhali Six Roads, Navrangpura, Ahmedabad – 380009, Gujarat  
Website: [www.adaniports.com](http://www.adaniports.com)

### About the company

Adani Ports and Special Economic Zone Ltd (APSEZL) was incorporated in 1998 and is primarily engaged in developing, operating and maintaining the port and its related infrastructure services. APSEZL develops and operates ports and related infrastructure and also provides port services including marine, handling intra-port transport, storage, other value-added and evacuation services for terminal operators, shipping lines & agents, exporters, importers and other port users. The company operates 14 terminals having 37 berths to handle dry, liquid and container cargo and two single point mooring facilities to handle crude cargo at the ports of Mundra, Dahej, Hazira, Vizhinjam and Dhamra.

### Dun & Bradstreet D-U-N-S® No 87-231-2067

Financial Snapshot (₹ Mn)	
Total Income	61,635.3
Net Profit	31,006.1
Total Assets	392,477.3
Ratios (%)	
NPM	50.3
ROA	8.8
Current Ratio	1.8

(As on March 31, 2017)

## Deendayal Port Trust

Business Development Cell, Administrative Bldg, Gandhidham, Kutch - 370201, Gujarat  
Website: [www.kandlaport.gov.in](http://www.kandlaport.gov.in)

### About the company

Deendayal Port Trust, which was earlier named as Kandla Port Trust has a rich infrastructure with 12 cargo berths with Quay length of 2532 meters, six oil jetties, one deep draft mooring and four Cargo moorings in the inner Harbour area for stream handling. It offers the lowest cost per tonne amongst all the major and non-major ports in India with the lowest vessel related charges, lowest wharfage charges and lowest storage charges. The port has a capacity of 267.22 mn tonnes and is ISPS (International Ship and Port Facility Security) compliant. Major imports entering the Port of Kandla are petroleum, chemicals, and iron and steel and iron machinery, but it also handles salt, textiles, and grain. Till Nov 2016, a total of 905 vessels have been dry docked at the port dock.

### Dun & Bradstreet D-U-N-S® No 91-538-1748

Financial Snapshot (₹ Mn)	
Total Income	13,831.5
Net Profit	6,938.6
Total Assets	48,563.4
Ratios (%)	
NPM	50.2
ROA	15.6
Current Ratio	0.8

(As on March 31, 2017)

## Gujarat Pipavav Port Limited

Post Office - Rampara No. 2, Via Rajula, Amreli – 365560, Gujarat  
Website: [www.pipavav.com](http://www.pipavav.com)

### About the company

Gujarat Pipavav Port Ltd (GPPL) was incorporated in Aug 1992. GPPL is involved in the business of port development and operations at Pipavav Port in Gujarat. The port is managed and operated by APM Terminals, a part of the A.P. Moller-Maersk group. The company provides cargo handling facilities for container, bulk, break bulk and liquid cargo. GPPL handles a variety of bulk and break bulk cargo such as cotton, wood pulp, sesame seeds, cattle feeds, agricultural products, ceramic tiles and soda ash among others. The port also provides custom bonded warehouse space. In FY17, container volume throughput stood at 663,380 TEUs as against 694,614 TEUs in FY16. During this period, the port handled bulk cargo volumes of 2.11 MMT and liquid cargo of around 685,960 MT. In the RORO segment, the port handled 83,607 cars during 31<sup>st</sup> March 2017.

### Dun & Bradstreet D-U-N-S® No 91-539-8036

Financial Snapshot (₹ Mn)	
Total Income	7,184.6
Net Profit	2,499.1
Total Assets	23,505.7
Ratios (%)	
NPM	34.8
ROA	10.8
Current Ratio	1.7

(As on March 31, 2017)



## Kamarajar Port Limited

No 17, Jawahar Building, Rajaji Salai, Chennai - 600001, TN  
Website: [www.ennoreport.gov.in](http://www.ennoreport.gov.in)

### About the company

Kamarajar port, the 12th major port of India is located on the Coromandel Coast about 24 km north of Chennai Port, Chennai and is the first port in India which is a public company. Kamarajar port is designed as the Asia's energy port and envisioned as a satellite port to ease the traffic and reduce the environmental impact at the busy Chennai Port. The port was incorporated primarily to handle thermal coal so as to support the requirements of Tamil Nadu Electricity Board (TNEB) and thus was endowed with large chunks of land (approx. 2000 acres). The port has two breakwaters – one in the north measuring 3080 meters and the other one is the south measuring 1070 meters which has a total capacity of developing 20 berths so as to handle different bulk, liquid and automobile cargo. During FY17, the port handled 801 vessels and 30.02 MMT of cargo.

### Dun & Bradstreet D-U-N-S® No 91-583-3651

Financial Snapshot (₹ Mn)	
Total Income	6,405.0
Net Profit	4,724.0
Total Assets	NA
Ratios (%)	
NPM	73.8
ROA	NA
Current Ratio	NA

(As on March 31, 2017)





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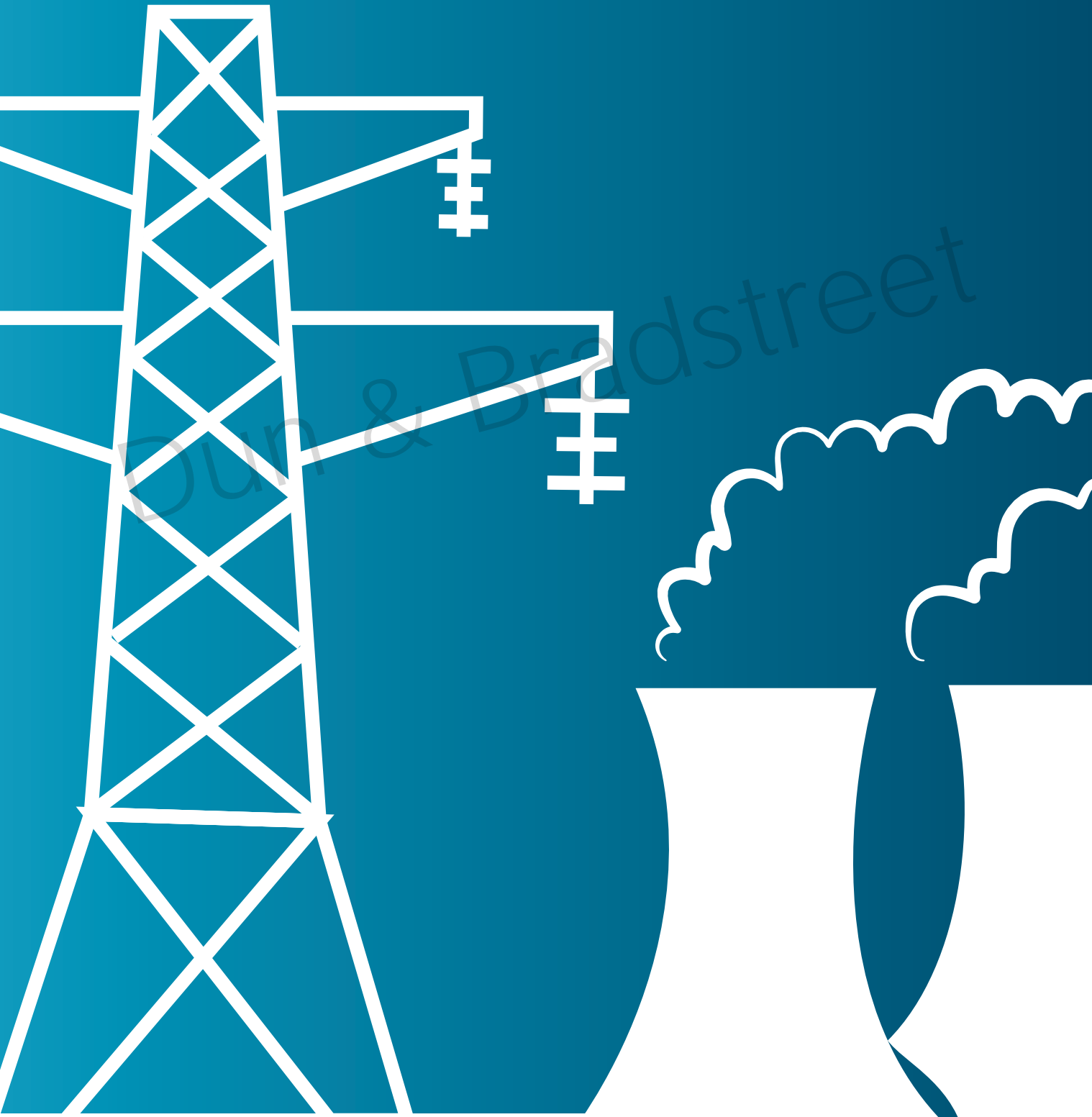
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# Power



## Adani Power Limited

Shikhar, Mithakhali Six Roads, Navrangpura, Ahmedabad - 380009, Gujarat  
Website: [www.adanipower.com](http://www.adanipower.com)

### About the company

Adani Power Ltd (Adani Power) is a subsidiary of Adani Enterprises Ltd. The company is primarily engaged in power generation through thermal and solar energy. Adani Power is operating an aggregate 10,480 MW generation capacity comprising of 4,620 MW at Mundra (Gujarat), 3,300 MW at Tiroda (Maharashtra) and 1,320 MW at Kawai (Rajasthan), 1,200 MW at Udupi (Karnataka) and 40 MW (solar) at Kutch (Gujarat). It sells power generated under a combination of long term power purchase agreement and on merchant basis. During FY17, the company sold 60.2 BU of power on a consolidated basis. In Sep 2016, Adani Green Energy (Tamil Nadu) Ltd, a part of the Adani Group, unveiled solar power plant of 648 MW in TN.

## CESC Limited

CESC House, Chowringhee Square, Kolkata - 700001, WB  
Website: [www.cesc.co.in](http://www.cesc.co.in)

### About the company

CESC Ltd (CESC) was incorporated in 1978. It is a flagship company of the RP-Sanjiv Goenka Group. The company is a fully integrated power utility engaged in the generation and distribution of electricity across 567 sq kms in Kolkata and Howrah, WB. CESC operates with three generation stations: Budge Budge, Southern and Titagarh, which cumulatively produce 1,125 MW of electricity. Budge Budge operates with three units of 250 MW each, while Southern comprises of two units of 67.5 MW each. Titagarh comprises of four units of 60 MW each. In FY17, the combined generation capacity for the three stations was 6,053 mn units and added around 96,000 customers. The company also has four wind power projects and one solar power project.

## Gujarat Industries Power Company Limited

P.O. Petrochemicals, Vadodara - 391346, Gujarat  
Website: [www.gipcl.com](http://www.gipcl.com)

### About the company

Gujarat Industries Power Company Ltd (GIPCL) was incorporated in 1985 and is engaged in electrical power generation. GIPCL operates five power plants with a combined capacity of 815 MW comprising 145 MW Vadodara Station-I; 165 MW Vadodara Station- II; Surat Lignite Power Plant (SLPP) Station Phase-I and Phase-II with 250 MW capacity each and a five MW photovoltaic solar power station at Surat. In FY16, GIPCL's Vadodara station-I and station-II generated 719.5 MU and 235.5 MU of power at a PLF of 56.49% and 16.25% respectively. During the same year, SLPP station phase-I and phase-II generated 1,643.2 MU and 1,440.69 MU of power at a PLF of 74.83% and 65.61% respectively. In Jan 2017, GIPCL commissioned 16.8 MW WTGs of the Kuchhdi Wind Farm at Porbandar, Gujarat.

### Dun & Bradstreet D-U-N-S® No 91-713-1138

Financial Snapshot (₹ Mn)	
Total Income	117,531.9
Net Profit	(60,543.4)
Total Assets	417,574.8
Ratios (%)	
NPM	(51.5)
ROA	(13.9)
Current Ratio	0.2

(As on March 31, 2017)

### Dun & Bradstreet D-U-N-S® No 65-004-6741

Financial Snapshot (₹ Mn)	
Total Income	73,666.3
Net Profit	8,628.6
Total Assets	284,471.6
Ratios (%)	
NPM	11.7
ROA	3.1
Current Ratio	0.9

(As on March 31, 2017)

### Dun & Bradstreet D-U-N-S® No 65-017-7488

Financial Snapshot (₹ Mn)	
Total Income	13,815.8
Net Profit	2,292.4
Total Assets	34,141.9
Ratios (%)	
NPM	16.6
ROA	7.0
Current Ratio	0.8

(As on March 31, 2017)



## Himachal Baspa Power Company Limited

Sholtu Colony, P.O. Tapri, Dist. Kinnaur - 172104, HP  
Website: www.jsw.in

### About the company

Himachal Baspa Power Company Ltd (HBPCL) is a wholly owned subsidiary of JSW Energy Ltd effective from Sep 8 2015. HBPCL is primarily engaged in the business of generation and transmission of power and operates hydro-electric power plants at Karcham Wangtoo with power generation capacity of 1091 MW and Baspa II with power generation capacity of 300 MW. Karcham Wangtoo power plant that was commissioned in Sep 2011, is estimated to generate 4130.98 GWh of energy in a 90% dependable year. Baspa (stage II) hydro-electric power plant was commissioned in Jun 2003 and is estimated to generate 1213 GWh in 90% dependable year.

### Dun & Bradstreet D-U-N-S® No 87-373-3149

Financial Snapshot (₹ Mn)	
Total Income	14,813.7
Net Profit	1,313.6
Total Assets	98,070.6
Ratios (%)	
NPM	8.9
ROA	1.4
Current Ratio	3.4

(As on March 31, 2017)

## India Power Corporation Limited

Plot No. X 1, 2&3, Block-EP, Sector -V, Salt Lake City, Kolkata - 700091, WB  
Website: www.indiapower.com

### About the company

India Power Corporation Ltd (India Power) formerly known as DPSC Ltd, was incorporated in 1919. The company is engaged in power generation, transmission, distribution and trading. India Power operates as a distribution licensee in a licensed area of 618 sq km in WB as well as another distribution franchisee in Gaya, Bodh Gaya and Manpur covering 1,630 sq kms. As on Mar 31, 2017, the company operated 105.2 MW of wind power plants in Karnataka, Gujarat, Maharashtra and Rajasthan; 12 MW of coal fired thermal power station at Dishergarh in WB and 300 MW (2x150) thermal power project in Nellor, 36 MW solar plant in Uttarakhand and a 2 MW grid connected solar power plant in Asansol, WB. During FY17, the company acquired the 1,000 MW Meenakshi Power plant to augment its power generation capacity to 1,605.2 MW.

### Dun & Bradstreet D-U-N-S® No 91-843-9956

Financial Snapshot (₹ Mn)	
Total Income	4,693.6
Net Profit	391.2
Total Assets	20,747.6
Ratios (%)	
NPM	8.3
ROA	1.8
Current Ratio	1.4

(As on March 31, 2017)

## JSW Energy Limited

JSW Centre, Bandra Kurla Complex, Bandra (E), Mumbai - 400051, Maharashtra  
Website: www.jsw.in

### About the company

JSW Energy Ltd (JSW Energy), a JSW Group company, was incorporated in 1994. JSW Energy is an integrated power company with presence across power generation, transmission and trading. It has operational capacity of 3140 MWs through plants in Bellary (Karnataka) Ratnagiri (Maharashtra) and Barmer (Rajasthan). The company also has presence in mining and equipment manufacturing segments. It has alliances with Rajasthan State Mines and Minerals Ltd (RSMML) for lignite mines in Barmer, Rajasthan and also owns coal mines in South Africa. JSW operates a JV with Toshiba Corp Ltd, which is engaged in the design, manufacture, marketing and maintenance of mid to large size supercritical steam turbines and generators. In Jan 2017, JSW Energy secured an order from Power Company of Karnataka Ltd for supply of 650 MW power.

### Dun & Bradstreet D-U-N-S® No 65-032-6929

Financial Snapshot (₹ Mn)	
Total Income	43,695.2
Net Profit	1,947.5
Total Assets	154,179.8
Ratios (%)	
NPM	4.5
ROA	1.2
Current Ratio	0.5

(As on March 31, 2017)



## Maithon Power Limited

Corporate Centre, 34 Sant Tukaram Road, Carnac Bunder, Mumbai – 400009, Maharashtra  
Website: [www.tatapower.com](http://www.tatapower.com)

### About the company

Maithon Power Ltd (MPL) was incorporated as a joint venture between The Tata Power Company Ltd and Damodar Valley Corporation with 74% and 26% shareholding respectively. MPL operates and maintains electric power generating stations based on conventional/ non-conventional resources, tie-lines, sub-stations and transmission lines. The company has set up thermal power generation plant at Maithon, Jharkhand with a total capacity of 1,050 MW. Maithon power plant comprises of two units namely unit I and unit II with power generation capacity of 525 MW each. Unit I and unit II of Maithon power plant were commissioned on Sep 1, 2011 and Jul 24, 2012 respectively. It supplies power to four states namely New Delhi, Jharkhand, WB and Kerala as per long term PPA.

## NHPC Limited

NHPC Office Complex, Sector - 33, Faridabad - 121003, Haryana  
Website: [www.nhpcindia.com](http://www.nhpcindia.com)

### About the company

NHPC Ltd (NHPC), a Miniratna Category - I CPSE, was incorporated in 1975 to plan, promote and organise an efficient and integrated development of hydroelectric power in India. NHPC undertakes power generation along with project management and consultancy services. NHPC is primarily engaged in power generation and also provides contracts services, project management and consultancy services to Central and State Govt agencies in India and abroad. In FY17, NHPC generated 23,275 MU of power with 83.4% plant availability factor. The aggregate installed capacity of NHPC is 6,691 MW (including 2 power stations of 1,520 MW of NHDC Ltd – Subsidiary Company of NHPC). In FY17, Power Purchase Agreements (PPAs) were signed with Government of Bihar, Uttarakhand, Assam, Odisha and Mizoram.

## NLC India Limited

First Floor, No.8, Mayor Sathyamurthy Road, Chetpet, Chennai - 600031, TN  
Website: [www.nlcindia.com](http://www.nlcindia.com)

### About the company

NLC India Ltd (NLC) was incorporated in 1956 by Gol. The company has been conferred with the status of Navratna by Gol. NLC is engaged in the mining and production of lignite and thermal power generation. The company operates four lignite mines; three at Neyveli, TN and one at Barsingar, Rajasthan. In FY16, it achieved lignite production of 254.51 LT. The total Overburden (OB) removal for lignite during FY16 was 1702.76 LM. In the power segment, it operates five pithead thermal power stations with an aggregate capacity of 3240 MW. In FY16, power generation stood at 19,182.21 MU, with average PLF at 76.03%. During FY16, both the Units of TPS-II Expn. (2x250 MW) achieved commercial operation. It has also entered the renewable energy space with establishment of a 10 MW solar photo voltaic power plant in Neyveli.

### Dun & Bradstreet D-U-N-S® No 67-792-3139

Financial Snapshot (₹ Mn)	
Total Income	24,230.2
Net Profit	2,558.1
Total Assets	50,007.2
Ratios (%)	
NPM	10.6
ROA	5.0
Current Ratio	1.0

(As on March 31, 2017)

### Dun & Bradstreet D-U-N-S® No 91-534-8184

Financial Snapshot (₹ Mn)	
Total Income	87,298.4
Net Profit	27,955.9
Total Assets	494,027.8
Ratios (%)	
NPM	32.0
ROA	5.4
Current Ratio	1.1

(As on March 31, 2017)

### Dun & Bradstreet D-U-N-S® No 65-005-2186

Financial Snapshot (₹ Mn)	
Total Income	93,472.5
Net Profit	23,688.1
Total Assets	275,093.8
Ratios (%)	
NPM	25.3
ROA	9.3
Current Ratio	2.0

(As on March 31, 2017)



## NTPC Limited

NTPC Bhawan, Scope Complex, Lodi Road, New Delhi - 110003, Delhi  
Website: [www.ntpc.co.in](http://www.ntpc.co.in)

### About the company

NTPC Ltd (NTPC), a Maharatna enterprise was incorporated in Nov 1975, as National Thermal Power Corporation Ltd. In May 2010, NTPC was conferred with the Maharatna status. NTPC is primarily engaged in generation and sale of bulk power. Other business of NTPC includes providing consultancy, project management and supervision, oil and gas exploration and coal mining. NTPC operates 20 coal-based, 7 gas based stations, 1 hydro based station and 1 wind based station. During FY16, the company added 2,255 MW capacity, taking the total installed capacity of the company to 46,653 MW. Of the total installed capacity, NTPC directly owns 40,012 MW of capacity while the remaining 6,641 MW is owned indirectly through subsidiaries and JVs. In Jun 2017, NTPC entered into EV Charging business and set up charging stations at multiple locations.

### Dun & Bradstreet D-U-N-S® No 65-007-9049

Financial Snapshot (₹ Mn)	
Total Income	793,423.0
Net Profit	93,852.6
Total Assets	2,365,774.9
Ratios (%)	
NPM	11.8
ROA	4.2
Current Ratio	0.8

(As on March 31, 2017)

## Nava Bharat Ventures Limited

6-3-1109/1, Nava Bharat Chambers, Rajbhavan Road, Hyderabad - 500082, Telangana  
Website: [www.nbventures.com](http://www.nbventures.com)

### About the company

Nava Bharat Ventures Ltd (NBVL) was incorporated in 1972. NBVL is the flagship company of the Nava Bharat group. The company has a diversified business and can be classified under four segments: ferro alloys, power generation, mining and agri-business. Under ferro alloys segment, NBVL operates smelters for the production of manganese alloys and chromium alloys in Telangana and Odisha. Under the power segment the company has geographically diversifying its power assets and moving towards integrated power projects with captive coal mines, and, hydel power generation. The company has diversified into agri-business, starting with sugarcane development and production of sugar and downstream products. It operates an integrated sugar facility at Samalkot, AP with crushing capability of 4,000 TCD of sugarcane.

### Dun & Bradstreet D-U-N-S® No 65-007-6128

Financial Snapshot (₹ Mn)	
Total Income	10,439.3
Net Profit	829.8
Total Assets	32,193.7
Ratios (%)	
NPM	7.9
ROA	2.6
Current Ratio	1.7

(As on March 31, 2017)





IS Jha  
Chairman & Managing Director

Dun & Bradstreet D-U-N-S® No 67-582-9222

Financial Snapshot (₹ Mn)	
Total Income	265,814.6
Net Profit	75,201.5
Total Assets	1,946,794.6
Ratios (%)	
NPM	28.3
ROA	4.0
Current Ratio	0.4
<i>(As on March 31, 2017)</i>	
Management Details	
<b>Chairman &amp; Managing Director</b>	
IS Jha	
<b>Directors</b>	
K Sreekant	
RP Singh	
RP Sasmal	
P Singh	
Ms. Bharti	
JI Patel	
TT Dorji	
MK Mittal	
Address	
B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi - 110016, Delhi	
<b>Website</b> www.powergridindia.com	

## Power Grid Corporation of India Limited

### Background

Power Grid Corporation of India Ltd (POWERGRID) was incorporated in Oct 1989 in the name of National Power Transmission Corporation Ltd and acquired its present name in Oct 1992. POWERGRID has been conferred the status of central transmission utility in 1998 and Navratna status in 2008. POWERGRID is primarily engaged in power transmission business along with planning, implementation, operation and maintenance of inter-state transmission system and operation of national & regional load dispatch centers. The company has also diversified into telecom business under the brand name *POWERTEL* and it also provides transmission related consultancy services and is also present in the area of Smart Grid and Renewable Integration.

### Transmission

POWERGRID is the central transmission utility of the country which operates & maintains inter-state transmission systems in the country. As on Aug 31 2017, POWERGRID owned & operated a transmission network of around 142,433 ckt kms of transmission lines along with 224 sub-stations and transformation capacity of about 296,988 MVA, spread over the length and breadth of the country. The company also undertakes project management of large size transmission and distribution infrastructure projects, development and operation of real time SCADA/EMS/DMS and telecommunication systems. POWERGRID also provides assistance to various State utilities in implementation of APDRP/RGGVY schemes under distribution system improvement and rural electrification programme. POWERGRID also assists various distribution utilities in formulation of Smart Grid pilot project for implementation under ISGTF along with preparation of report for improvement of power supply in various utilities through smart grid application. In FY17, POWERGRID commissioned around 10,300 ckm of transmission lines and 12 sub-stations with an aggregate transformation capacity of 34,695 MVA.

### Telecom Business

POWERGRID is one of the implementing agencies for major telecom projects of GoI and National Optic Fiber Network. The company serves major telecom players in ILD and NLD segment and its clientele includes unified access providers, global IT companies, ISPs, various MNCs and Central & State Government organisations. As on Aug 31 2017, POWERGRID owned and operated around 43,450 kms of telecom network with an intra city network in 105 cities and points of presence in 662 locations across the country. The telephone backbone availability stood at over 99.5%.

### Business Development & Consultancy

POWERGRID offers consultancy services at national & international level. The company offers consultancy in the field of power transmission, sub-transmission, distribution, load despatch, communication and smart grid. It offers consultancy services right from project planning, design, engineering, load despatch, procurement management to operation & maintenance, financing and project management. The company's clientele includes various Central & State Government organisations, STUs, DISCOMs and private sector companies. In FY17, POWERGRID received 26 new consultancy projects with a total project cost of ₹ 15 bn.

## Reliance Infrastructure Limited

H Block, Dhirubhai Ambani Knowledge City, Navi Mumbai - 400710, Maharashtra  
Website: [www.rinfra.com](http://www.rinfra.com)

### About the company

Reliance Infrastructure Ltd (RInfra), a Reliance Group company, was incorporated in 1929. The company has presence across the value chain of power business i.e. generation, transmission, distribution, and trading. RInfra also provides EPC services for developing power and road projects. RInfra is also engaged in implementation, operation and maintenance of several projects through SPVs in various infrastructural areas. The company along with its subsidiary operates five power stations with aggregate generating capacity of 941 MW of power located across the states of Maharashtra, AP, Kerala, Karnataka and Goa. In November 2016, the company won an EPC order for ₹ 36.75 bn from NLC India Ltd for setting up two nos. of Lignite-based CFBC thermal power projects of capacity 250 MW each, in Barsingsar and Bithnok in Rajasthan.

### Dun & Bradstreet D-U-N-S® No 67-559-5064

Financial Snapshot (₹ Mn)	
Total Income	110,043.4
Net Profit	12,884.1
Total Assets	574,354.3
Ratios (%)	
NPM	11.7
ROA	2.2
Current Ratio	1.0

(As on March 31, 2017)

## Reliance Power Limited

H Block, Dhirubhai Ambani Knowledge City, Navi Mumbai - 400710, Maharashtra  
Website: [www.reliancepower.co.in](http://www.reliancepower.co.in)

### About the company

Reliance Power Ltd (RPL), a part of Reliance Group to develops, constructs and operates power projects in India and abroad. RPL has developed and constructed a large portfolio of power generation projects based on coal, gas, hydro and renewable energy presently operating with an installed capacity of 5,945 MW. The company has four coal based project aggregating to 7,800 MW; one gas-based project of 2,400 MW and three hydro-based projects aggregating to 2,860 MW under various stages of development and implementation. In April 2017, the company executed project agreements with Bangladesh Power Development Board for Phase-I of 750 MW LNG based combined cycle power project at Meghnaghat in Bangladesh. In FY17, RPL's 3,960 MW Sasan UMP and 600 MW Butibori plant operated with availability of 86% and 88% respectively.

### Dun & Bradstreet D-U-N-S® No 91-663-4365

Financial Snapshot (₹ Mn)	
Total Income	4,766.2
Net Profit	642.6
Total Assets	244,128.6
Ratios (%)	
NPM	13.5
ROA	0.3
Current Ratio	0.4

(As on March 31, 2017)

## SJVN Limited

SJVN, Corporate Office Complex, Shanan, Shimla - 171006, HP  
Website: [www.sjvn.nic.in](http://www.sjvn.nic.in)

### About the company

SJVN Ltd (SJVN), a Miniratna company, was incorporated in 1988 as a JV between Gol and the Govt of HP. SJVN is primarily engaged in generation and sale of power. The company has projects in HP, Uttarakhand, AP, Nepal and Bhutan under execution. The company also operates 412 MW Rampur hydro electric project (RHPS) which distributes power to the states of HP, Haryana, J&K, Punjab, Rajasthan, UP and Uttarakhand. In FY16, the company's Nathpa Jhakri HPS (NJHPS), Rampur HPS (RHPS) and Khirvire wind power project together generated 9346.128 MUs of power. In FY16, it signed MOUs with Solar Energy Corporation of India to set up 500 MW grid connected solar power projects, and with Saurya Urja Company of Rajasthan Ltd for allocation of land for development of 300 MW solar power generation capacity in solar park at Jodhpur and Jaisalmer, Rajasthan.

### Dun & Bradstreet D-U-N-S® No 65-067-9319

Financial Snapshot (₹ Mn)	
Total Income	31,199.0
Net Profit	15,441.4
Total Assets	153,767.9
Ratios (%)	
NPM	49.5
ROA	10.0
Current Ratio	7.0

(As on March 31, 2017)



## Tata Power Company Limited

Bombay House, 24, Homi Mody Street, Mumbai - 400001, Maharashtra  
Website: [www.tatapower.com](http://www.tatapower.com)

### About the company

The Tata Power Company Ltd (Tata Power) is primarily engaged in generation, transmission, distribution-cum-retail, power trading, power services, coal mines and logistics, strategic engineering for defence applications, solar photovoltaic manufacturing and associated project management services. Tata Power is engaged in electricity generation through various fuel sources including thermal, hydroelectric renewable energy and waste heat recovery. In Jul 2017, Tata Power completed construction of its 187 MW project in Georgia. In Jun 2017, the company's distribution arm, TP Ajmer Distribution Ltd signed a distribution franchisee agreement with Ajmer Vidyut Vitran Nigam Ltd. In Feb 2017, the company initiated commercial operations of its 15MW solar plant at Belampally, Telangana.

### Dun & Bradstreet D-U-N-S® No 65-011-5942

Financial Snapshot (₹ Mn)	
Total Income	81,318.9
Net Profit	2,834.5
Total Assets	398,686.7
Ratios (%)	
NPM	3.5
ROA	0.8
Current Ratio	0.3

(As on March 31, 2017)

## Tata Power Renewable Energy Limited

Corporate Centre, 34 Sant Tukaram Road, Carnac Bunder, Mumbai – 400009, Maharashtra  
Website: [www.tatapowerrenewables.com](http://www.tatapowerrenewables.com)

### About the company

Tata Power Renewable Energy Ltd (TPREL) is a wholly owned subsidiary of The Tata Power Company Ltd. TPREL develops, constructs and operates wind and solar power assets. The company has a total operating capacity of 1,839 MW comprising of 907 MW wind power and 932 MW solar power. It has a further 373 MW of wind and solar capacity under development. TPREL has power generation plants at Maharashtra, Gujarat, Rajasthan, MP, Karnataka, TN, WB, Bihar, AP and Punjab. Power generated from these plants are sold to the local power distribution companies under long term PPA. TPREL generated 1440 MUs from renewable energy sources in FY17 as compared to 329 MUs in FY16. The company completed commissioning of 100 MW wind farm at Nimbagallu, AP and 50 MW Rojmal Phase-II in Gujarat and 15 MW solar plant in Belampally, Telangana in FY17.

### Dun & Bradstreet D-U-N-S® No 65-057-5702

Financial Snapshot (₹ Mn)	
Total Income	4,004.4
Net Profit	686.6
Total Assets	81,593.2
Ratios (%)	
NPM	17.1
ROA	1.3
Current Ratio	0.6

(As on March 31, 2017)

## Torrent Power Limited

600, Samanvay, Tapovan, Ambawadi, Ahmedabad - 380015, Gujarat  
Website: [www.torrentpower.com](http://www.torrentpower.com)

### About the company

Torrent Power Ltd (Torrent), part of Torrent Group, forayed into power sector in the year 1990. Torrent is engaged in the business of power generation, transmission and distribution with operations in the states of Gujarat, Maharashtra and UP. Torrent has power plants in Surat, Ahmedabad and Dahej areas of Gujarat. It also operates a wind power plant at Jamnagar, Gujarat. In Dec 2016, the company entered into a renewal and amendment agreement to a Distribution Franchise Agreement (DFA) with the Maharashtra State Electricity Distribution Company Ltd. (MSEDCL) for distribution of power in Bhiwandi Circle for a further period of 10 years, effective January 26, 2017.

### Dun & Bradstreet D-U-N-S® No 65-033-2237

Financial Snapshot (₹ Mn)	
Total Income	102,068.9
Net Profit	4,323.6
Total Assets	206,209.6
Ratios (%)	
NPM	4.2
ROA	2.2
Current Ratio	1.2

(As on March 31, 2017)





## Udupi Power Corporation Limited

First Floor, Lotus Tower, No. 34, Devraja Urs Road, Bengaluru - 560001, Karnataka  
Website: [www.adanipower.com](http://www.adanipower.com)

### About the company

Udupi Power Corporation Ltd (UPCL) was incorporated in Apr 2015 as a subsidiary of Adani Power Ltd. UPCL has an installed capacity of 1,200 MW at thermal power plant located in Udupi, Karnataka. The company supplies 90% of the power it generates to the state of Karnataka and 10% to the state of Punjab. Each plant of UPCL is of 600 MW capacity and has one sub critical coal fired steam generator connected to a reheat type condensing steam turbine and generator with sea water cooled condenser and all other required auxiliaries. The power generated by the company is evacuated at two levels i.e. 220 KV and 400 KV.

### Dun & Bradstreet D-U-N-S® No 65-044-1384

Financial Snapshot (₹ Mn)	
Total Income	33,284.4
Net Profit	451.8
Total Assets	76,607.9
Ratios (%)	
NPM	1.4
ROA	0.6
Current Ratio	0.8

(As on March 31, 2017)



# Our **green** vision powers us forward.



At Bharti Infratel, it is our never-ending endeavour to seek sustainable green solutions to empower communications by using sustainable sources of power like solar and wind energy. Because for us being eco-friendly is not just an option, it's the spirit that powers us forward towards a greener future.

# Telecom



## Bharti Infratel Limited

Bharti Crescent, 1, Nelson Mandela Road, Phase - II, New Delhi - 110070, Delhi  
Website: [www.bharti-infratel.com](http://www.bharti-infratel.com)

### About the company

Bharti Infratel Ltd (Bharti Infratel) was established in 2006 and commenced its business in the year 2007. In 2007, the company entered into JV with Vodafone India and Aditya Birla Telecom to form a JV named Indus Towers Ltd. The company is involved in the business of providing telecom tower infrastructure. They acquire, build, own and operate towers and related infrastructure. Bharti Infratel along with Indus Towers provides access to their towers primarily to wireless telecommunication service providers on a shared basis under long-term contracts. The company has a nationwide presence with operations in all 22 telecommunication circles in India with both the company and Indus Towers having operations in four overlapping circles. As on Mar 31, 2017, the company owned and operated 39,099 towers with 89,263 co-locations in 11 telecommunication circles.

### Dun & Bradstreet D-U-N-S® No 87-394-8351

Financial Snapshot (₹ Mn)	
Total Income	71,068.0
Net Profit	27,050.0
Total Assets	212,844.0
Ratios (%)	
NPM	38.1
ROA	12.7
Current Ratio	1.1

(As on March 31, 2017)

## Himachal Futuristic Communications Limited

8, Electronics Complex, Chambaghat, Solan - 173213, HP  
Website: [www.hfcl.com](http://www.hfcl.com)

### About the company

Himachal Futuristic Communications Ltd (HFCL) was established in the year 1987. HFCL's operations include telecom equipment and solutions, turnkey services and power management solutions. HFCL's telecom solutions include telecom equipment and solutions, turnkey services, power management solutions and integrated security and surveillance solutions. The company's order book consists of a WiFi network turnkey project worth ₹ 2 bn which entails rolling out of WiFi services across 16 states in the Northern and Eastern India. Another order of ₹ 1.80 bn involves supply, commissioning and maintenance of about 10,000 microwave backhaul radios. HFCL's order pipeline also includes an NFS project worth ₹ 12.50 bn which entails building a dense wavelength division multiplexing based transmission network for armed forces.

### Dun & Bradstreet D-U-N-S® No 91-509-0927

Financial Snapshot (₹ Mn)	
Total Income	22,608.6
Net Profit	1,237.2
Total Assets	22,269.2
Ratios (%)	
NPM	5.5
ROA	5.7
Current Ratio	2.1

(As on March 31, 2017)

## Indus Towers Limited

Bharti Crescent, 1, Nelson Mandela Road, Vasant Kunj, Phase II, New Delhi - 110070  
Website: [www.industowers.com](http://www.industowers.com)

### About the company

Indus Towers Ltd (ITL) was incorporated in 2007 and has been promoted as a joint venture between Bharti Group including Bharti Infratel Ltd (42%), Vodafone India (42%) and Aditya Birla Telecom (16%) to provide passive infrastructure services to telecom service providers. It constructs and operates telecom towers. The company's clientele include all telecom operators and other wireless service providers such as broadband service providers. As on June 2017, ITL had 122,920 towers in 15 circles across the country and achieved 297,867 tenancies. In January 2017, it established two new sites in Dobiyaatal and Maithana in Uttarakhand with a view to enhance network connectivity in remote locations. In September 2017, it signed an MoU with Indian Oil Corporation (IOCL) to set up mobile tower network across all 26,000 outlets across the country.

### Dun & Bradstreet D-U-N-S® No 85-894-6722

Financial Snapshot (₹ Mn)	
Total Income	175,280.0
Net Profit	28,451.0
Total Assets	225,660.0
Ratios (%)	
NPM	16.2
ROA	12.6
Current Ratio	0.3

(As on March 31, 2017)



## Railtel Corporation of India Limited

6<sup>th</sup> Floor, 3<sup>rd</sup> Block, Delhi Technology Park, Shastri Park, Delhi - 110053, Delhi  
Website: [www.railtelindia.com](http://www.railtelindia.com)

### About the company

Railtel Corporation (Railtel) is a Mini Ratna (Category-I) Public sector Enterprise. It owns a Pan-India optic fiber network on exclusive Right of Way (ROW) along railway track. The company's OFC network is spread across all major towns and cities of India, covering 70% of the population of India. The company's OFC network is spread over 45,000 route km and connects over 4500+ cities and towns with 24000+ RKM High Capacity DWDM. It offers a wide range of services to the Indian telecom market; which include managed lease lines, tower colocation, MPLS based IP-VPN, Internet and NGN based voice carriage services to telecom operators, internet service providers, MSOs, enterprises, banks, government institutions/department, educational institutions/universities, etc.

### Dun & Bradstreet D-U-N-S® No 65-103-1812

Financial Snapshot (₹ Mn)	
Total Income	8,994.1
Net Profit	1,288.2
Total Assets	23,115.1
Ratios (%)	
NPM	14.3
ROA	5.7
Current Ratio	1.5

(As on March 31, 2017)

## Vindhya Telelinks Limited

Udyog Vihar P.O. Chorhata Rewa - 486006, MP  
Website: [www.vtlrewa.com](http://www.vtlrewa.com)

### About the company

Vindhya Telelinks Ltd (Vindhya Telelinks) was incorporated in 1983 as a public-private JV between Universal Cables Ltd and the Madhya Pradesh State Industrial Development Corporation Ltd. Today the company manufactures fibre optic cables, copper cables, power cables and telecom fibre accessories. The company is also engaged in the business of manufacturing of FRP rods/ glass rovings, connectorized cables products and EPC business. The company's cables and EPC businesses respectively account for around 25% and 75% of the total turnover. It supplies its products to various sectors including railways, defence, coalfields, and atomic energy among others. In FY17, Vindhya Telelinks secured projects in Bihar, MP, Odisha and UP with an order book position of over ₹ 20 bn as at the end of FY17.

### Dun & Bradstreet D-U-N-S® No 86-222-4565

Financial Snapshot (₹ Mn)	
Total Income	10,504.8
Net Profit	672.4
Total Assets	11,654.7
Ratios (%)	
NPM	6.4
ROA	6.4
Current Ratio	1.5

(As on March 31, 2017)



**UNITS OF MEASUREMENT**

<b>UNITS OF MEASUREMENT</b>	<b>ABBREVIATION</b>
Billion	bn
Centimeters	cms
Circuit Kilometers	CKM
Compounded Annual Growth Rate	CAGR
Cubic meter	CuM
Direct Current	DC
Extra High Voltage	EHV
Feet	ft
gigawatt	GW
High Voltage	HV
Kilo Volt	KV
Kilometers	kms
Kilovolt/ Double-Circuit Transmission Line	KV D/Ckt line
Kilowatt	KW
Kilowatt Hour	Kwh
Mega Volt Ampere	MVA
Mega Watts Electric	Mwe
Megawatt	MW
Meters	Mtrs
Metric Cube	m <sup>3</sup>
Metric Tonnes	MT
Million	mn
Million British Thermal Units	MBTU
Million Litre Per Day	MLD
Million Metric Standard Cubic Meters	MMSCM
Million Metric Tonnes	MMT
Million Metric Tonne of Oil Equivalent	MMTOE
Million Tonnes Per Annum	MTPA
Million Units	MU
Minutes Of Usage	MOU
National Private Leased Circuit	NPLC
Net Profit Margin	NPM
Overhead Line	OHL
Plant Load Factor	PLF
Profit After Tax	PAT
Profit Before Depreciation Interest & Taxes	PBDIT
Reservoir Monitoring Tool	RMT
Return of Capital Employed	ROCE
Return on Net Worth	RONW
Rupees	₹

**UNITS OF MEASUREMENT****UNITS OF MEASUREMENT**

Square Feet  
 Square Kilometer  
 Tonnes Per Hour  
 Tonnes Per Day  
 Twenty-Foot Equivalent Unit  
 cubic meter per hour  
 Diesel Hydrotreater  
 Vacuum Gas Oil Hydrotreating Unit  
 Continuous Catalytic Regenerator Reformer  
 cubic meter  
 Million Standard Cubic Feet Per Day  
 Million Metric Tonne Per Annum  
 Air Separation Unit  
 High-Voltage Direct Current  
 Square Meter

**ABBREVIATION**

sq ft  
 sq km  
 TPH  
 TPD  
 TEU  
 cum/hr  
 DHDT  
 VGO-HDT  
 CCR  
 M<sup>3</sup>  
 MMSCMD  
 MMTPA  
 ASU  
 HVDC  
 sqm

**STATES ABBREVIATIONS****STATES, COUNTRIES, REGIONS**

Andhra Pradesh  
 Commonwealth of Independent States  
 Czech Republic  
 Europe, Middle East and Africa  
 Himachal Pradesh  
 Jammu & Kashmir  
 Madhya Pradesh  
 National Capital Region  
 North America  
 North East  
 Reunion Islands  
 Saudi Arabia  
 South Asian Association for Regional Cooperation  
 Sri Lanka  
 Tamil Nadu  
 Union Territories  
 United Arab Emirates  
 United Kingdom  
 United States of America  
 Uttar Pradesh  
 West Bengal  
 West Indies

**ABBREVIATION**

AP  
 CIS  
 Czech  
 EMEA  
 HP  
 J&K  
 MP  
 NCR  
 N.A.  
 NE  
 RI  
 KSA  
 SAARC  
 SL  
 TN  
 UT  
 UAE  
 UK  
 USA  
 UP  
 WB  
 WI

**TECHNICAL TERMS****TERMS**

Aggregate Technical & Commercial  
 Broadband & Telephone Services  
 Built Operate Transfer  
 Built Own Operate Transfer  
 Business Process Outsourcing  
 Code Division Multiple Access  
 Design Built Operate  
 Design, Build, Finance, Operate and Transfer  
 Direct to Home  
 Engineering & Construction  
 Engineering and Maintenance  
 Engineering Procurement and Construction  
 General Packet Radio Service  
 Global System for Mobile Communications  
 Information Technology  
 Information Technology Enabled Services  
 Integrated Service Digital Network  
 Intelligent Network  
 International Long Distance  
 Internet  
 Internet Protocol  
 Internet Protocol Television  
 Kilo Litre Per Day  
 Liquefied Natural Gas  
 National Highway  
 National Long Distance  
 Operation & Maintenance  
 Public Call Offices  
 Public Private Partnership  
 Public Sector Undertakings  
 Transmission and Distribution  
 Transmission Control Protocol  
 Virtual Private Network  
 Wind Turbine Generators  
 Wireless Application Protocol

**ABBREVIATION**

AT&C  
 B&TS  
 BOT  
 BOOT  
 BPO  
 CDMA  
 DBOOT  
 DBFOT  
 DTH  
 E&C  
 E&M  
 EPC  
 GPRS  
 GSM  
 IT  
 ITeS  
 ISDN  
 IN  
 ILD  
 INET  
 IP  
 IPTV  
 KLPD  
 LNG  
 NH  
 NLD  
 O&M  
 PCO  
 PPP  
 PSU  
 T&D  
 TCP  
 VPN  
 WTG  
 WAP



**INSTITUTIONS****INSTITUTIONS**

Accelerated Generation & Supply Programme  
Accelerated Power Development and Reform Programme  
Airports Authority of India  
Andhra Pradesh State Electricity Board  
Central Public Works Department  
Centre for Monitoring Indian Economy  
City and Industrial Development Corporation  
Delhi Metro Rail Corporation Ltd  
Delhi State Industrial Development Corporation  
Department of Telecommunications  
Employee's State Insurance Corporation  
Financial Institution  
Financial Institutional Investors  
Foreign Currency Convertible Bonds  
Gas Turbo Power Station  
Government of India  
Gujarat Electricity Board  
Jawaharlal Nehru National Urban Renewal Mission  
Jawaharlal Nehru Port Trust  
Leadership in Energy and Environmental Design  
Madhya Pradesh State Electricity Board  
Madhya Pradesh State Road Development Corporation  
Mahanagar Telephone Nigam Limited  
Maharashtra State Electricity Board  
Maharashtra State Road Development Corporation Ltd  
Maharashtra State Warehousing Corporation  
Mumbai Metropolitan Regional Development Authority  
Mumbai Urban Transport Project  
National Highway Development Programme  
National Highways Authority of India  
NTPC Limited  
Pradhan Mantri Gram Sadak Yojana  
Public Works Department  
State Electricity Board  
State Transmission Utility  
Tarapur Atomic Power Station  
Tata Consultancy Services  
Uranium Corporation of India Limited  
Uttar Pradesh Electricity Board  
West Bengal State Electricity Board  
Solar Energy Corporation of India

**ABBREVIATION**

AG & SP  
APDRP  
AAI  
APSEB  
CPWD  
CMIE  
CIDCO  
DMRC  
DSIDC  
DoT  
ESIC  
FI  
FII's  
FCCB  
GTPS  
GoI  
GEB  
JNNURM  
JNPT  
LEED  
MPSEB  
MPSRDC  
MTNL  
MSEB  
MSRDC  
MSWC  
MMRDA  
MUTP  
NHDP  
NHAI  
NTPC  
PMGSY  
PWD  
SEB  
STU  
TAPS  
TCS  
UCIL  
UPSEB  
WBSEB  
SECI

**OTHER ABBREVIATION****TERM**

Bandra Kurla Complex  
 Compressed Natural Gas  
 Eastern States Standard Oil  
 Financial Year  
 Foreign Direct Investment  
 Gross domestic Product  
 High Speed Diesel  
 Index of Industrial Production  
 Initial Public Offering  
 International Organisation for Standardisation  
 Joint Venture  
 Memorandum of Understanding  
 Multinational Corporation  
 National Capital Region  
 Occupational Health and Safety Assessment Series  
 Original Equipment Manufacturer  
 Per Month  
 Power Purchase Agreement  
 Research and Development  
 Reinforced Cement Concrete  
 Slum Rehabilitation Scheme  
 Special Economic Zone  
 Special Purpose Vehicle  
 Telecommunications Services Obligation  
 Thermal Power Stations  
 Total Quality Assurance  
 Year-on-Year  
 Maritime Structures, Mass Rapid Transport Systems  
 Calendar Year  
 Liquefied Petroleum Gas / Liquid Petroleum Gas  
 Non-Resident Indian  
 Piped Natural Gas  
 Aviation Turbine Fuel  
 Uttar Pradesh New and Renewable Energy Development Agency  
 High Voltage Distribution System  
 Low Voltage Distribution System  
 Bombay Suburban Electric Supply Limited  
 Design-Build-Operate  
 Brihanmumbai Municipal Corporation  
 High Density Polyethylene

**ABBREVIATION**

BKC  
 CNG  
 ESSO  
 FY  
 FDI  
 GDP  
 HSD  
 IIP  
 IPO  
 ISO  
 JV  
 MoU  
 MNC  
 NCR  
 OHSAS  
 OEM  
 pm  
 PPA  
 R&D  
 RCC  
 SRS  
 SEZ  
 SPV  
 TSO  
 TPS  
 TQA  
 Y-o-y  
 MRTS  
 CY  
 LPG  
 NRI  
 PNG  
 ATF  
 UPNEDA  
 HVDS  
 LVDS  
 BSES  
 DBO  
 BMC  
 HDPE

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