CONSTRUCTION EQUIPMENT

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EXECUTIVE SUMMARY

High revenues and unit sales
- Construction equipment industry in India is expected to reach USD5 billion by FY20 from USD3 billion in FY16, in value terms. While, volume sale of construction equipment is expected to grow to 96,730 units by 2018 from 76,000 units in FY16.

Rising infrastructure investments
- The NITI Aayog estimates total infrastructure spending to be about 9 per cent of GDP by 2017, up from 7.2 per cent during the 11th Five year plan (2007–12)

Increasing private sector involvement
- Private sector is emerging as a key player across various infrastructure segments, ranging from roads and communications to power and airports

Growth in real estate sector
- The real estate market is estimated to grow to USD180 billion by 2020 from USD126 billion in 2015, driven by demand mainly from residential sector

Construction equipment analysis
- Construction equipment forms around 7 per cent to 8 per cent of GDP and expected to give employment to more than 3.0 million people in the country by 2020. It also accounts for more than 60 per cent in total infrastructural investment

Source: KPMG, FICCI, Corporate Catalyst India Pvt Ltd, Indian Construction Equipment Manufacturers’ Association (ICEMA), TechSci Research
CONSTRUCTION EQUIPMENT

ADVANTAGE INDIA
CONSTRUCTION EQUIPMENT

Robust demand
- Significant allocation for the infrastructure sector in the 12th Five-Year Plan, and investment requirement of 1 trillion USD is expected to create huge demand for construction equipment
- Revenue from construction equipments is expected to grow at a CAGR of 2.34 per cent during FY07-FY20 and reach to USD5 billion by FY20

Competitive advantages
- Increasing impetus to develop infrastructure in the country is attracting the major global players
- There has been cumulative FDI inflow of USD337.16 million in earth-moving machinery between April 2000 and March 2016

Attractive opportunities
- Equipment rental and leasing business in India is small relative to developed markets and has a strong growth potential
- The after-sales revenue component in India is currently low and can be increased considerably

Advantage India
- Policy support
  - The material handling equipment industry is de-licensed & 100 per cent FDI is allowed under direct route
  - ‘Make in India’ pitch to boost investments

Source: Department of Heavy Industries (DHI) Annual Report, CII, TechSci Research
Notes: FY - Indian Financial Year (April - March), E – Estimates, CAGR - Compound Annual Growth Rate, FDI - Foreign Direct Investment

For updated information, please visit www.ibef.org
Domestic necessity for construction and mining equipment were entirely met by imports

Bharat Earthmovers Ltd, a public sector company, began domestic production of construction equipment in India.

They began manufacturing dozers, dumpers, scrapers, etc, for defence requirements.

Private sector started emerging, led by Hindustan Motors Earth Moving Equipment Division in technical collaboration with Terex, UK.

Followed by L&T, Telcon and Escorts JCB

Most of the technology leaders like Case, Caterpillar, Hitachi, Ingersoll-Rand, JCB, John Deere, Joy Mining equipment, Komatsu, Lieberr, Poclain, Terex, Volvo are present in India as joint venture companies, or have set up their own manufacturing facilities (or marketing companies).

Several Indian firms are entering into tie-ups for equipment rental & leasing business, e.g., tie-up between SREI Infrastructure and BNP Paribas. This is expected to drive sales of equipment in future.

In 2016, under the Smart Cities Mission, 83 projects have been launched in 20 cities by the government of India.

Source: Department of Heavy Industry (DHI), TechSci Research
MAJOR SEGMENTS OF THE CONSTRUCTION EQUIPMENT INDUSTRY

- Earth-moving equipment
- Material handling and cranes
- Road building equipment
- Concrete equipment

Source: Department of Heavy Industry (DHI), TechSci Research
### CONSTRUCTION EQUIPMENT – SEGMENT DESCRIPTION

<table>
<thead>
<tr>
<th>Segment</th>
<th>Description</th>
</tr>
</thead>
</table>
| Earth-moving equipments        | • Earth-moving equipments is the largest segment of the construction equipment sector in India; these equipments primarily find use in mining and construction  
  • Equipments include backhoe leaders, excavators, wheeled loaders, dumpers/tippers, skid steer loaders |
| Material handling and cranes   | • Material handling equipments have four categories: storage and handling equipments, engineered systems, industrial trucks, and bulk material handling  
  • There are 50 units in the organised sector for the manufacture of material handling equipments and many units in the small-scale sector as well |
| Concrete equipments            | • Concrete equipments are used to mix and transport concrete  
  • They include equipments such as concrete pumps, aggregate crushers, transit mixers, asphalt pavers, batching plants |
| Road building equipments       | • Road building equipments are used in the various stages of road construction  
  • Widely used ones are excavators, diggers, loaders, scrapers, bulldozers etc |

*Source: DHI Annual Report, TechSci Research*
By FY20, construction equipment industry’s revenue is estimated to reach to USD5 billion.

Growth in revenues from construction equipment (USD billion)

CAGR: 2.34%

Source: The Boston Consulting Group, Mahindra Website, TechSci Research
Notes: CAGR - Compounded Annual Growth Rate, FY - Indian Financial Year (April-March), E – Estimate, YoY – Year on Year
CONSTRUCTION EQUIPMENT

CONSTRUCTION EQUIPMENT SALE ON AN UPTREND

- With infrastructure investment set to go up, demand for construction equipment will rise further;
- Sale of construction equipment in India is estimated to grow at a CAGR of 6.18 per cent, in volume terms, and reach to 96,700 units by FY18 from 50,000 in FY07;
- With sale of 76,000 units construction equipments, the industry has witnessed growth at a CAGR of 4.76 per cent during FY07-16.
- With sales of 21,869 units of construction equipment, during January 2016 to May 2016, the industry recorded increase in sales at a rate of 47.6 per cent, over the same period during the previous year.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total no of construction equipment units sold ('000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY07</td>
<td>50</td>
</tr>
<tr>
<td>FY08</td>
<td>45.5</td>
</tr>
<tr>
<td>FY09</td>
<td>40.5</td>
</tr>
<tr>
<td>FY10</td>
<td>59.7</td>
</tr>
<tr>
<td>FY11</td>
<td>72.2</td>
</tr>
<tr>
<td>FY12</td>
<td>66.4</td>
</tr>
<tr>
<td>FY13</td>
<td>55.9</td>
</tr>
<tr>
<td>FY14</td>
<td>60.7</td>
</tr>
<tr>
<td>FY15</td>
<td>68.2</td>
</tr>
<tr>
<td>FY16</td>
<td>76.0</td>
</tr>
<tr>
<td>FY18E</td>
<td>96.7</td>
</tr>
</tbody>
</table>

Source: NBM & CW, Mahindra Website, TechSci Research
Notes: CAGR - Compounded Annual Growth Rate, FY - Indian Financial Year (April-March), E – Estimate
YoY – Year on Year
Based on estimated revenues of 2015, earth moving holds the largest share in the construction equipment industry (62.1 per cent)

For FY2015, exports of earthmoving & mining machinery from India stood around USD1.12 billion, while imports stood around USD1.84 billion.

By 2016, backhoe loaders and crawlers are estimated to reach 70 per cent of the total construction equipment; crawler excavators is anticipated to grow from 23 per cent in 2015 to 35 per cent in 2016

Crawler excavators is expected to be the fastest growing segment by 2018, mainly on demand for mid-sized crawlers (20T) from the construction segment and their versatile usage

Backhoe loaders and crawlers excavators are expected to account for over 68.23 per cent of total sales by 2018

Others consists of Asphalt Finishers, Crawler Dozers, Mini Excavators, Rigid Dump Trucks, etc.

Note: E - Estimated

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NOTABLE TRENDS IN THE CONSTRUCTION EQUIPMENT INDUSTRY

Increasing imports from China

- Chinese equipment manufacturers have a strong presence in some segments such as wheel loaders, dozers, due to which imports from China increased in FY16.
- Chinese equipment tend to be price competitive, thereby putting downward pressure on prices of domestic equipment manufacturers.

Rising private sector share

- The private sector’s share has expanded across key infrastructure segments, ranging from roads and communications to power and airports.
- Of the total planned infrastructure investments worth USD1 trillion during the 12th Five-Year Plan, the share of private sector is estimated to be 47 per cent, up from 25 per cent during the 10th Five-Year Plan.

Rapidly growing excavator segment

- The share of crawler excavators is estimated to increase to 35 per cent in 2016 from the 23 per cent in 2015, mainly on demand for mid-sized crawlers (20 tonnes) from the construction segment.
- Demand for larger excavators (30 tonnes) used in the mining segment is also expected to increase in the years to come.
- As a part of Make in India Initiative, Kobelco Construction Equipment India Pvt. Ltd introduced Made-in-India Excavator model (SK140HDLC) in 2015, suitable for common applications related to construction sector. The product ensures best of machine productivity and return on investments.

Source: Ministry of Commerce, Directorate General of Foreign Trade (DGFT), TechSci Research
Note: R&D - Research and Development
CONSTRUCTION EQUIPMENT

NOTABLE TRENDS IN THE CONSTRUCTION EQUIPMENT INDUSTRY

Equipment rental

- Several Indian firms are entering into tie-ups for equipment rental & leasing business, e.g., tie-up between SREI Infrastructure and BNP Paribas
- This is expected to drive sales of equipments in future
- With easy availability of financial schemes and increasing use of construction equipment, the scope of construction equipment rental industry is growing in India.

Customised equipment's

- There is demand for equipment's for niche applications
- The manufacturers have also started giving end to end solutions to cater to this demand

Source: Ministry of Commerce, Directorate General of Foreign Trade (DGFT), TechSci Research
Note: R&D - Research and Development

For updated information, please visit www.ibef.org
## CONSTRUCTION EQUIPMENT

### KEY PLAYERS

<table>
<thead>
<tr>
<th>Company</th>
<th>Revenue in USD million</th>
<th>Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>JCB India Ltd</td>
<td>818.9 (FY15)</td>
<td>Backhoe Loaders, Wheel Loaders, Tracked Excavators, Compactors, Skid Steer Loaders, Telehandler, Generators, Super Loaders</td>
</tr>
<tr>
<td>BEML Ltd</td>
<td>433.23 (FY15)</td>
<td>Crawler dozers, wheel dozers, excavators, dump trucks, loaders, backhoe loaders, pipe layers, walking draglines, rope shovels and sprinklers</td>
</tr>
<tr>
<td>McNally Bharat Engineering Co Ltd</td>
<td>402.38 (FY16)</td>
<td>Crushing, screening and milling equipment, pressure vessels, material-handling equipment, steel plant equipment</td>
</tr>
<tr>
<td>Greaves Cotton Ltd</td>
<td>247.02 (FY16)</td>
<td>Transit mixers, concrete pumps, heavy tandem rollers, soil compactors</td>
</tr>
<tr>
<td>L&amp;T</td>
<td>15,678.58 (FY16)</td>
<td>Hydraulic excavators, components and hydraulic systems</td>
</tr>
<tr>
<td>Elecon Engineering Co Ltd</td>
<td>194 (FY16)</td>
<td>Elevators, conveyors and moving machines, gears and crushers</td>
</tr>
</tbody>
</table>

*Source: Company website, TechSci Research*

*Note: R&D - Research and Development*
PORTER’S FIVE FORCES ANALYSIS

<table>
<thead>
<tr>
<th>Competitive Rivalry</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Big firms have intense competitive rivalry, as all major world players operate in India</td>
</tr>
<tr>
<td>• Competition is deep as companies fight with each other on the quoted price to win a contract amid high price sensitivity</td>
</tr>
<tr>
<td>• Low switching costs from buyers increase competition</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Threat of New Entrants</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Threat is low due to the capital-intensive nature of the industry</td>
</tr>
<tr>
<td>• High maintenance and distribution costs are other barriers</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substitute Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Threat is very low as there is no substitute in this sector</td>
</tr>
<tr>
<td>• Same players are required even for maintenance and up-gradation of existing machines</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bargaining Power of Suppliers</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Bargaining power of suppliers is low due to high price sensitivity and very low switching costs for buyers</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bargaining Power of Customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Power is high as few construction and mining companies do majority of bulk buying, which gives them an edge</td>
</tr>
</tbody>
</table>

Source: TechSci Research
CONSTRUCTION EQUIPMENT

STRATEGIES ADOPTED
CONSTRUCTION EQUIPMENT

STRATEGIES ADOPTED…(1/2)

Technical tie-up with foreign partners

- In order to move up the value chain and become a one-stop shop, companies form JVs with international players for technology transfer.
- In February 2016, Russia’s Uralmash, decided to form a joint venture with India’s SRB International to manufacture heavy equipments in the country, with 50:50 partnership.
- BEML had a technical tie-up with Vosta to enter into dredging.

Modernising products suiting changing customer trends

- Companies today emphasise on mechanisation to suit the needs of changing Indian mining industry.
- Oil and coal companies are demanding larger-sized mining machinery with larger capacity so as to increase output by enhancing recovery rates.

Provision of after-sales services

- Most equipment’s manufactured in India undergo considerable wear and tear; thus, maintenance of machinery becomes necessary after a period of time.
- Companies are looking forward to increase their backup of trained technical professionals to cater to maintenance demand in addition to focussing on human resource development, to create a motivated sales and service force.
- For instance, Providing on-site training and spare stock of consumables to customers.

Source: TechSci Research
CONSTRUCTION EQUIPMENT

STRATEGIES ADOPTED…(2/2)

R&D

- Companies are stepping up their R&D spending to manufacture equipment without foreign assistance
- Other aspects include quality control, enhancing power-to-load ratio, reducing operating costs and use of better materials
- Britain's University of Warwick has been working with partners JCB and Pektron PLC for developing a technology that would ensure improved engine operation thereby, optimising the fuel economy of vehicles

Integrated facility

- In February 2015, Allahabad gets its first integrated facility for JCB Equipment

Source: TechSci Research
CONSTRUCTION EQUIPMENT

GROWTH DRIVERS
Investment in infrastructure is the main growth driver of the construction equipment industry. The NITI Aayog estimates total infrastructure spending to be about 9 per cent of GDP during the 12th Five Year Plan (2012-17), up from 7.2 per cent during the previous plan (2007-12).

India’s investment in infrastructure is estimated to double to about USD1 trillion during the 12th Five Year Plan (2012-17) compared to the previous Five Year Plan.

**Infrastructure spending as per cent of GDP**

<table>
<thead>
<tr>
<th>Plan</th>
<th>FY08</th>
<th>FY09</th>
<th>FY10</th>
<th>FY11</th>
<th>FY12</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
<th>FY16</th>
<th>FY17</th>
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<tr>
<td>12th Five Year Plan</td>
<td>5.2%</td>
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<td></td>
<td>9%</td>
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<tr>
<td>11th Five Year Plan</td>
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<td>6.4%</td>
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<td></td>
<td>7.2%</td>
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<td>FY17</td>
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<td>9.0%</td>
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<td>7.9%</td>
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<td>FY15</td>
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<td>7.9%</td>
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<td>7.4%</td>
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<td>FY14</td>
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<td>8.4%</td>
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<td>7.2%</td>
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<td>FY12</td>
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<td>7.9%</td>
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<td>6.4%</td>
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<td>FY11</td>
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<td>7.9%</td>
<td>5.2%</td>
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<td>FY10</td>
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<td>7.2%</td>
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<td></td>
<td>6.4%</td>
</tr>
</tbody>
</table>

**Infrastructure spending during 11th and 12th Five-Year Plan (USD billion)**

<table>
<thead>
<tr>
<th>Plan</th>
<th>FY08</th>
<th>FY09</th>
<th>FY10</th>
<th>FY11</th>
<th>FY12</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
<th>FY16</th>
<th>FY17</th>
</tr>
</thead>
<tbody>
<tr>
<td>12th Five Year Plan</td>
<td>75.7</td>
<td>69.4</td>
<td>89.5</td>
<td>101.6</td>
<td>101.9</td>
<td>157.4</td>
<td>181.2</td>
<td>173.8</td>
<td>210.6</td>
<td>260.2</td>
</tr>
</tbody>
</table>

Source: CMIE Database, TechSci Research
CONSTRUCTION EQUIPMENT

INVESTMENTS IN INFRASTRUCTURE DRIVING THE SECTOR’S GROWTH … (2/2)

* Of total investment of USD1 trillion during the 12th Five-Year Plan, over 20 per cent each is estimated to have been allocated for roads and power sub-segments

* India has the world’s second largest road network – spanning 4.7 million kilometres

* The Government intends to increase the paved road to total road ratio and build more national highways

* China submitted a five year trade and cooperation plan to India offering its willingness to finance 30 per cent of government’s USD1 trillion investment target

* Japan has also pledged USD35 billion investment over the next five years

* Japanese construction equipment manufacturer, Kobelco Construction Machinery Co.’s Indian subsidiary to double its annual production capacity at Sri City-based facility in Andhra Pradesh from 1,200 units per year to 2,500 units per year, so as to meet the increasing demand for heavy construction equipment.

* Such massive investment in infrastructure would boost demand for construction equipment

* Under Union Budget 2016-17, Government has allocated an outlay of USD11.46 billion for the infrastructure sector; out of which USD2.3 billion and USD1.6 billion has been provided for the development of roads and railways respectively

For updated information, please visit www.ibef.org
According to the World Bank, India is second only to China in terms of the number of Public Private Partnership (PPP) projects. Encouragingly, the government is set to continue promoting PPP models to help achieve its investment targets.

The Ministry of Roads, Transport and Highways of India has plans for constructing six-lane roads worth USD5bn to develop the Golden Quadrilateral.

Golden Quadrilateral has four sections - Section I is a 1,454km stretch of National Highway 2 (NH2) from Delhi to Kolkata, Section II is a 1,684km stretch from Kolkata to Chennai, Section III is a 1,290km stretch from Chennai to Mumbai and Section IV is a 1,419km stretch between Mumbai and Chennai.

Indian government has planned to build 100 smart cities. The government has allocated USD8.29 billion for this project. This plan would need more PPP’s for better and fast execution. On August 28th, 2015, Government had released the list of cities that qualified for being a smart city.

Out of which, 13 cities fall in Uttar Pradesh, 12 cities in Tamil Nadu, 10 in Maharashtra, 6 each in Gujarat and Karnataka, 4 each in West Bengal and Rajasthan. 2 cities are yet to be decided.

For updated information, please visit www.ibef.org
Mechanisation of mining operations, a key ingredient behind rising production, has led to increased demand for mining equipment.

India is world’s third largest coal producer with production of about 639.24 MT in FY16.

Coal production in India grew at a CAGR of 4.64 per cent during FY07-16.

Coal India Limited (CIL) captured over 83 per cent share in the total coal production in India and produced 536 MT in FY16.

For the 12th Five-Year Plan, CIL approved a capital expenditure of USD4.4 billion.

Total coal production in India stood at 639.24 MT in FY16, growing at a YoY of almost 4.62 per cent, in comparison to FY15.

**Production of coal (million tonnes)**

CAGR: 4.64%


Notes: FY – India Financial Year (April – March), YoY – Year on Year, MT - Million Tonnes
Production of iron ore in India is expected to increase to 155 MT in FY16 from 129 MT in FY15.

Iron ore production is estimated to increase by 25 MT and reach to 180 MT by the end of FY17.

Surge in steel production in the country is expected to boost demand for iron ore in India. India’s crude steel production capacity is estimated to rise and stand at 300 MT by 2025.

The Ministry of Mines aims to reduce export duty on low grade iron ore to 15 per cent from earlier 30 per cent to enhance its export.

**Production of iron ore (million tonnes)**

<table>
<thead>
<tr>
<th>Year</th>
<th>FY07</th>
<th>FY08</th>
<th>FY09</th>
<th>FY10</th>
<th>FY11</th>
<th>FY12</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
<th>FY16P</th>
<th>FY17F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>188.0</td>
<td>213.0</td>
<td>213.0</td>
<td>219.0</td>
<td>208.0</td>
<td>169.0</td>
<td>137.0</td>
<td>136.4</td>
<td>129.0</td>
<td>155.0</td>
<td>180.0</td>
</tr>
</tbody>
</table>

Notes: MT – Million Tonnes, FY16P – Provisional estimate for FY16, YoY – Year on Year, FY17F – Forecast for FY17
The burgeoning real estate industry in India gives a fillip to the demand for concrete and building construction equipment.

- The residential real estate demand is driven by rising population and growing urbanisation.
- Rising income levels leading to higher demand for luxury projects.
- Growing demand for affordable housing to meet the demand from lower income groups.

Commercial real estate demand will be driven by growth in IT/ITeS sector and organised retail.

Real estate market is expected to grow at a CAGR of 17.2 per cent over 2011-15 to USD126 billion. India’s real estate market is anticipated to reach USD180 billion by 2020.

Increasingly construction is becoming more oriented toward mechanisation to reduce project time and control costs – leading to higher demand for advanced construction equipment.

The government is coming up with single window clearance facility to accord speedy approval for construction of buildings.

Concrete equipments sales growth

<table>
<thead>
<tr>
<th></th>
<th>2016E</th>
<th>2020E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backhoe loaders</td>
<td>65-75</td>
<td>140-190</td>
</tr>
<tr>
<td>Crawler excavators</td>
<td>35-40</td>
<td>95-120</td>
</tr>
<tr>
<td>Mobile cranes</td>
<td>14-18</td>
<td>25-35</td>
</tr>
<tr>
<td>Wheel loaders</td>
<td>4-6</td>
<td>10-15</td>
</tr>
<tr>
<td>Transit Mixers</td>
<td>7-10</td>
<td>10-16</td>
</tr>
<tr>
<td>Forklifts</td>
<td>7-8</td>
<td></td>
</tr>
</tbody>
</table>


Notes: E – Estimated

For updated information, please visit www.ibef.org
**CONSTRUCTION EQUIPMENT**

**STRONG DEMAND PROSPECTS ARE ATTRACTING GLOBAL PLAYERS**

- Fundamentals for the sector are set to remain strong on the back of increasing infrastructure investments.

- Almost all global technology leaders in the construction equipment sector have a presence in India – either as joint ventures or with their own manufacturing or marketing companies.

- Cumulative FDI inflow (since April 2000) into market for earth-moving equipment increased to USD364.11 million till September 2016.

- Joint ventures with global majors have provided domestic companies access to advanced technology and a whole gamut of project management experience.

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**FDI inflows in earth-moving equipments**

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</tr>
</thead>
<tbody>
<tr>
<td>USD Million</td>
<td>74</td>
<td>75</td>
<td>132</td>
<td>134</td>
<td>134</td>
<td>170</td>
<td>175</td>
<td>209</td>
<td>235</td>
<td>337</td>
<td></td>
</tr>
</tbody>
</table>

**Joint Venture**

<table>
<thead>
<tr>
<th>Joint Venture</th>
<th>Indian partner</th>
<th>Foreign partner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ashok Leyland – John Deere</td>
<td>Ashok Leyland 50%</td>
<td>John Deere 50%</td>
</tr>
<tr>
<td>Tata Hitachi Construction Machinery Company Private Limited</td>
<td>Tata Motors Ltd. 40%</td>
<td>Hitachi Construction Machinery Co. Ltd. 40%</td>
</tr>
</tbody>
</table>

*Source: Department of Industrial Policy & Promotion (DIPP), Company websites, TechSci Research*

*Notes: FDI – Foreign Direct Investment, FY – India Financial Year (April – March)*

For updated information, please visit [www.ibef.org](http://www.ibef.org)
KEY PRODUCTION FACILITIES OF SOME MAJOR PLAYERS

Source: Company websites

Note: JCB India commissioned two new production facilities at Jaipur

For updated information, please visit www.ibef.org
The Ballabhgarh facility is the world’s largest backhoe loader plant which also manufactures Liftall, the ‘pick-&-carry’ crane.

### Key Manufacturing Facilities of Some Major Players

- **JCB India**
  - Ballabgarh (Haryana)

- **BEML**
  - Two Manufacturing plants in Jaipur

- **Greaves Cotton**
  - Vallabh Vidhyanagar Facility

- **Elcon Eng.**
  - Two Manufacturing plant in Pune

### Construction Equipment

- **Bengaluru Plant**
  - Rail & metro Complex
  - Palakkad Complex
  - Vignyan Industries for steel casting

- **Kolar Gold Fields (KGF) Complex**
  - Earth moving Division,
  - Rail Coach Unit,
  - Heavy Fabrication & Hydraulic & Powerline Division

- **Vallabh Vidhyanagar Facility**

- **Aurangabad Plant**

- **Mysore Plant**
  - Truck Division
  - Engine Division

- **Kolar Plant**

- **Ranipet Plant**

- **Gummudipoondi Plant**

*Source: Company websites*
FAVOURABLE POLICIES ARE SUPPORTING SECTOR GROWTH … (1/2)

De-licensing
- The material handling equipment industry is de-licensed and Foreign Direct Investment (FDI) of up to 100 per cent under the automatic route as well as technology collaboration is allowed freely.

Policy initiatives related to infrastructure
- Government of India’s focus on infrastructure development is the biggest driver for the construction equipment industry.
- Projected infrastructure spending in the 12th plan is USD1,011 billion.
- 100 smart cities and ‘Make in India’ programme projects to boost investment.

Special Economic Zones (SEZs)
- The government has granted sops, including a large number of SEZs, to the capital goods industry of which construction equipment is a part; especially with an impetus to increase exports.

Tariffs and custom duties
- The government has removed tariff protection on capital goods.
- Custom duties on a range of goods that are used in the manufacturing process have also been lowered.
- In the Union Budget 2015–16, custom duty exemption from MAT under 80IA for Infrastructure projects was announced. This exemption will help in reducing the cash outflow in the initial years of the project.
- No change in the excise duty on construction equipment in 2016–17.

Source: Ministry of Agriculture, Union Budget 2015-16, Union Budget 2016-17, TechSci Research
FAVOURABLE POLICIES ARE SUPPORTING SECTOR GROWTH … (2/2)

**Encouragement of Infrastructure Debt Funds (IDFs)**
- The Government of India set up the India Infrastructure Finance Company (IIFCL) to provide long-term funding for infrastructure projects
- Interest payments on borrowings for infrastructure are subject to lower withholding tax rate of 5 per cent, down from a tax rate of 20 per cent
- IDF’s income is exempt from tax
- Government cleared model tripartite pact for infra debt funds in ports

**Issue of tax-free infrastructure bonds**
- As per the Union Budget 2016 – 17, the GOI exempted service tax on construction of houses up to 60 square metres, under any scheme of central government, state government or public-private partnership (PPP)
- Infrastructure finance companies like India Infrastructure Finance Corporation (IIFCL), National Highways Authority of India (NHAI), Housing and Urban Development Corp (Hudco), Power Finance Corporation (PFC) and Indian Railway Finance Corporation (IRFC) are allowed to issue tax-free bonds
- Government allowed to raise a total of USD6.5 billion through tax-free bonds

**Technology Acquisition Fund Programme (TAFP)**
- In August 2016, Department of heavy industries launched TAFP. The programme will let heavy industrial enterprises to acquire and develop new and innovative technologies for manufacturing heavy vehicles to compete with international markets.

Source: Ministry of Agriculture, Union Budget 2015-16, Union Budget 2016-17, TechSci Research
Notes: GOI – Government of India
Renting and leasing of equipment

- The equipment rental and leasing business in India is smaller compared to Japan, USA and China
- Demand for rental equipment is set to witness strong growth in the medium term due to large investments in infrastructure
- New players can also explore opportunities in the equipment finance business
- Higher rate of urbanisation would further push growth in this sector
- It is a way to solve the liquidity crunch and boost infrastructure

After-sales services

- Revenues from after-sales service in India are 2–8 per cent, lower than the global average of 12–20 per cent
- After-sales market is set to expand to USD0.5 billion by 2015; players can offer maintenance contracts with improved pricing and execution
- While these services contribute only modestly to revenues, they are counter-cyclical and can also boost spare part sales
- Increasing demand for customised products brings in the opportunity to develop after sale services like on-site training and assistance

Exports

- Export opportunities are abound – both in developed and emerging economies
- Components and aggregates export is a USD1 billion opportunity; local suppliers can gain a decent share of this by exporting engineering-intensive and basic material based components
- Opportunities in engineering and design offshoring and equipment exports may arise in the future
- Most of the Indian OEMs are cost competitive and therefore have a great opportunity in emerging markets of Asia and Africa

Source: Indian Construction Equipment Manufactures’ Association (ICEMA), TechSci Research
BEML Limited: Largest Manufacturer of Earth-Moving Equipment … (1/2)

- BEML Limited is the first Indian company to start manufacturing construction equipment in 1964.
- It is the largest manufacturer of earth-moving equipment in India and the second largest in Asia; it has a (global) presence in more than 56 countries.
- The company has 9 manufacturing facilities; 4 in Kolar gold fields, Bengaluru, 2 in Mysore, Palakkad and Vignyan Industries located at Tarikere.
- The company is a Mini-Ratna (Category 1) company under the Ministry of Defence; it was listed on Indian bourses in 2003 and raised further funds by a follow on offer in 2007.
- Revenue during FY16 is estimated to reach USD581 million by the company.
- It also won Best Seller- Rigid dump trucks and Best Seller-Crawler Dozers award in the 2nd Equipment India Awards-2014.

Gross sales (USD million)

<table>
<thead>
<tr>
<th></th>
<th>FY07</th>
<th>FY08</th>
<th>FY09</th>
<th>FY10</th>
<th>FY11</th>
<th>FY12</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
<th>FY16E</th>
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<tbody>
<tr>
<td></td>
<td>547</td>
<td>682</td>
<td>691</td>
<td>659</td>
<td>626</td>
<td>591</td>
<td>536</td>
<td>483</td>
<td>466</td>
<td>581</td>
</tr>
</tbody>
</table>

Notes: BEML - Bharat Earth Movers Limited
E – Estimate
Constitution Equipment

BeML Limited: Extending Green Revolution to Eastern India … (2/2)

- Forms a joint venture to enter contract mining of coal
- Begins operations at its fourth manufacturing complex in Palakkad, Kerala
- Forays into Thailand for export of mining equipments
- BeML supplied nation’s first stainless steel EMUs to Indian Railways
- BeML supplied 50th Metro train set to Bangalore Metro Rail Corporation Limited (BMRCL)
- BeML has set a target to achieve USD1.6 billion by 2017 for which the company has geared up with the necessary infrastructure

Source: Department of Heavy Industry (DHI), TechSci Research
Notes: EMU - Electrical Multiple Unit, Company website

January 2017

For updated information, please visit www.ibef.org
JCB INDIA – LEADING PLAYER IN THE SECTOR

- Set up operations in India as a JV with Escorts group in 1978.
- JCB UK acquires 100 per cent stake in 2003.
- In 2007, JCB builds its millionth machine.
- In 2009, JCB inaugurates world’s largest Backhoe loader manufacturing facility in Haryana.
- In 2010, JCB India annual revenue touched USD818.9 million.
- In 2014, The company inaugurated two manufacturing facilities in Jaipur.
- In 2015, JCB India has 63 dealers and 650 outlets across the country.
- In 2016, The company has targeted to have a revenue of USD892.6 million.

Source: Company website, TechSci Research
Note: JV - Joint Venture, E - Estimated
Yamuna Expressway is a 165-km, six-lane, controlled-access expressway stretching between Greater Noida and Agra.

It is India’s longest controlled-access expressway, developed by Jaypee Group under Public Private Partnership (BOT model) for a total value of USD2.3 billion.

The expressway became operational in August 2012.

**Silent features**
- Length - 165.5 kms
- Number of Lanes - Six lanes extendable to eight
- Design speed - 120 kms per hour
- Speed Limit - 100 kms per hour for cars, 60 kms per hour for heavy vehicles
- Main Toll Plazas - 4
- Minor Bridges - 41
Indian Earthmoving & Construction Industry Association Ltd
(IECIAL)
C/O Confederation of Indian Industry
The Mantosh Sondhi Centre
23 Institutional Area, Lodhi Road
New Delhi – 110 003
Tel: 011- 24629994-7, 011-45772032
Email: s.g.roy@cii.in

Engineering Export Promotion Council (EEPC)
‘Vanijya Bhawan’, 1st Floor
International Trade Facilitation Centre,
1/1, Wood Street,
Kolkata, West Bengal–700016.
Phone: 91-33-22890651, 22890652
E-mail: eepc@eepcindia.org
CONSTRUCTION EQUIPMENT

GLOSSARY

* FY: Indian Financial Year (April to March) – So FY11 implies April 2010 to March 2011
* USD: US Dollar – Conversion rate used: USD1 = INR54.43
* FDI: Foreign Direct Investment
* CAGR: Compounded Annual Growth Rate
* GOI: Government of India
* IECIAL: Indian Earthmoving & Construction Industry Association Ltd
* DHI: Department of Heavy Industries
* R&D: Research and Development
* JV: Joint Venture
* SEZ: Special Economic Zone
* IBEF: Indian Brand Equity Foundation

* Wherever applicable, numbers have been rounded off to the nearest whole number
## Exchange Rates

### Exchange rates (Fiscal Year)

<table>
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<tr>
<th>Year</th>
<th>INR equivalent of one USD</th>
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<tr>
<td>2004–05</td>
<td>44.81</td>
</tr>
<tr>
<td>2005–06</td>
<td>44.14</td>
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<td>2007–08</td>
<td>40.27</td>
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<td>2008–09</td>
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<td>2009–10</td>
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<td>2011–12</td>
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<td>2013–14</td>
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<td>2014–15</td>
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<td>2015–16</td>
<td>65.46</td>
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<tr>
<td>2016-17 (E)</td>
<td>66.95</td>
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</tbody>
</table>

### Exchange rates (Calendar Year)

<table>
<thead>
<tr>
<th>Year</th>
<th>INR equivalent of one USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>43.98</td>
</tr>
<tr>
<td>2006</td>
<td>45.18</td>
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<tr>
<td>2007</td>
<td>41.34</td>
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<td>2008</td>
<td>43.62</td>
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<td>2009</td>
<td>48.42</td>
</tr>
<tr>
<td>2010</td>
<td>45.72</td>
</tr>
<tr>
<td>2011</td>
<td>46.85</td>
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<tr>
<td>2012</td>
<td>53.46</td>
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<td>2013</td>
<td>58.44</td>
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<tr>
<td>2014</td>
<td>61.03</td>
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<tr>
<td>2015</td>
<td>64.15</td>
</tr>
<tr>
<td>2016 (Expected)</td>
<td>67.22</td>
</tr>
</tbody>
</table>

Source: Reserve bank of India, Average for the year

For updated information, please visit [www.ibef.org](http://www.ibef.org)
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