CONSTRUCTION EQUIPMENT

For updated information, please visit www.ibef.org
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### EXECUTIVE SUMMARY

**High revenues and unit sales**

- The construction equipment industry’s revenues are estimated to reach USD22.7 billion by 2020 from USD6.5 billion in FY14. Unit sale of construction equipment is expected to grow to 96,730 by 2018 from 60,655 in FY14.

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**Rising infrastructure investments**

- The erstwhile Planning Commission estimates total infrastructure spending to be about 10 per cent of GDP during the 12th Five-Year Plan (2012–17), up from 7.6 per cent during the previous plan (2007–12).

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**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.

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**Growth in real estate sector**

- The real estate market is estimated to grow to USD180 billion by 2020 from USD93.8 billion in 2014, driven by demand mainly from residential sector.

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**Construction equipment analysis**

- Construction equipment forms around 7 per cent to 8 per cent of GDP and gives 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.

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*Source: KPMG, FICCI, Corporate Catalyst India Pvt Ltd, TechSci Research*
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
- Demand for construction equipment is expected to rise to USD9.9 billion by 2015, a CAGR of 24.1 per cent (from 2011)

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

Competitive advantages
- Increasing impetus to develop infrastructure in the country is attracting the major global players
- There has been cumulative FDI inflow of USD278.87 million in earth-moving machinery between April 2000 and May 2015

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

CONSTRUCTION EQUIPMENT
2014
- Total revenues: USD6.5 billion
- Total volumes: 60,655

2020E
- Total revenues: USD22.7 billion
- Total volumes: 330,000

Advantage India
EVOLUTION OF THE CONSTRUCTION EQUIPMENT SECTOR IN INDIA

Before 1960
- Domestic necessity for construction and mining equipment were entirely met by imports

1964
- 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

1969 onwards
- 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

Beyond 2000
- 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

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

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

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

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
The construction equipment industry’s revenues were estimated to reach USD 9.9 billion by FY15.

Revenues increased at a CAGR of 8.38 per cent during FY07-14 and is further estimated to rise at a CAGR of 13.1 per cent on rapid infrastructure development undertaken by the Government of India.

On the other hand, the global construction equipment industry is expected to grow at a CAGR of 7.7 per cent during 2012-16.
With infrastructure investment set to go up, demand for construction equipment will rise further.

Equipment sales are estimated to expand at a CAGR of 6.2 per cent to reach 96,700 units by FY18 from 50,000 in FY07.

Total no of construction equipment units sold ('000)

Source: NBM & CW, TechSci Research,
Note: E - Figure represents estimated figure
‘EARTH MOVING’ IS THE LARGEST SEGMENT BASED ON REVENUES

Construction equipment revenue breakdown by segments – 2014

- Earth Moving: 56.23%
- Concrete Equipment: 19.00%
- Material handling: 13.22%
- Road Construction Equipment: 8.51%
- Material Processing: 3.04%

Based on estimated revenues, earth moving holds the largest share in the construction equipment industry (56.23 per cent)

In 2014, backhoe loaders contributed 49.46 per cent of the total construction equipment, followed by crawlers (about 18.96 per cent)

Clawer 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 equipments consist 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 like wheel loaders (market share: 12 per cent), dozers (market share: 13 per cent)
- 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 28.95 per cent by 2018 from the current 18.96 per cent, 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

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
- The market is expected to grow at a CAGR of 15-20 per cent by 2015

Customised equipments

- 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, TechSci Research
Note: R&D - Research and Development

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# Key Players

**Consortium Equipment**

<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>836.64 (FY14)</td>
<td>Excavators, compactors and tele-handling equipment, skid steers, wheeled and backhoe loaders, telescopic handlers, engines</td>
</tr>
<tr>
<td>BEML Ltd</td>
<td>466.02 (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>359.99 (FY15)</td>
<td>Crushing, screening and milling equipment, pressure vessels, material-handling equipment, steel plant equipment</td>
</tr>
<tr>
<td>Greaves Cotton Ltd</td>
<td>281.64 (FY15)</td>
<td>Transit mixers, concrete pumps, heavy tandem rollers, soil compactors</td>
</tr>
<tr>
<td>L&amp;T</td>
<td>15,262.94 (FY15)</td>
<td>Hydraulic excavators, components and hydraulic systems</td>
</tr>
<tr>
<td>Elecon Engineering Co Ltd</td>
<td>220.45 (FY15)</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 FIVE FORCES ANALYSIS

CONSTRUCTION EQUIPMENT

AUGUST 2015
**CONSTRUCTION EQUIPMENT**

**PORTER’S FIVE FORCES ANALYSIS**

<table>
<thead>
<tr>
<th>Competitive Rivalry</th>
<th>Threat of New Entrants</th>
<th>Substitute Products</th>
<th>Bargaining Power of Suppliers</th>
<th>Bargaining Power of Customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Big firms have intense competitive rivalry, as all major world players operate in India</td>
<td>• Threat is low due to the capital-intensive nature of the industry</td>
<td>• Threat is very low as there is no substitute in this sector</td>
<td>• Bargaining power of suppliers is low due to high price sensitivity and very low switching costs for buyers</td>
<td>• Power is high as few construction and mining companies do majority of bulk buying, which gives them an edge</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>
<td>• High maintenance and distribution costs are other barriers</td>
<td>• Same players are required even for maintenance and up-gradation of existing machines</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Low switching costs from buyers increase competition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: TechSci Research

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### STRATEGIES ADOPTED

| 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 May 2015, Cholamandalam Investment and Finance Company Ltd. has entered into strategic tie up Escorts Limited for retail finance of construction equipment products.  
• 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 eg. Providing on-site training and spare stock of consumables to customers |
| 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 |
| Integrated facility | • Allahabad gets its first integrated facility for JCB Equipment |

Source: TechSci Research
Investment in infrastructure is the main growth driver of the construction equipment industry.

The Planning Commission estimates total infrastructure spending to be about 10 per cent of GDP during the 12th Five-Year Plan (2012-17), up from 7.6 per cent during the previous plan (2007-12).

India’s investment in infrastructure is estimated to double to about USD1 trillion during the 12th plan (2012-17) compared to the previous 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>FY15E</th>
<th>FY16F</th>
<th>FY17F</th>
</tr>
</thead>
<tbody>
<tr>
<td>11th 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>206</td>
<td>233.5</td>
<td>264.4</td>
</tr>
<tr>
<td>12th Plan</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10th 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>206</td>
<td>233.5</td>
<td>264.4</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

* For FY15, the Planning Commission has provided an outlay of USD11.61 billion to develop the roads and railways.

* 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

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

AUGUST 2015

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Source: Boston Consulting Group, Economic Times, TechSci Research
CONSTRUCTION EQUIPMENT

GROWING PUBLIC PRIVATE PARTNERSHIPS (PPPs)

* 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.

* During the 12th Five-Year Plan, the erstwhile Planning Commission targets to achieve 47 per cent of total infrastructure investments through private funding, up from 25 per cent in the 10th Five-Year Plan.

* 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.

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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 about 566 million tonnes produced in 2014.

Coal production in India is estimated to increase at a CAGR of 4.9 per cent to 630 MT during FY07-15.

Coal India Limited (CIL) is undertaking around 81.70 per cent share in the total coal production in India and produced 462.41 MT by 2014.

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

Total coal production in India stood at 566 MT for FY14.
Actual production of iron ore was 136.4 MT in FY14. India ranks 4th globally, accounting for 8 per cent of global iron ore production.

Production fell in FY12 and FY13 due to mining ban in states of Karnataka and Goa. However, in April 2014, the Supreme Court of India lifted the mining ban in Goa due to which mine production reached to 1300 Tonnes in FY14.

A surge in steel production in the country is expected to boost iron ore demand. India’s crude steel capacity is estimated to rise from about 70 MT to 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>Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY07</td>
<td>188</td>
</tr>
<tr>
<td>FY08</td>
<td>213</td>
</tr>
<tr>
<td>FY09</td>
<td>213</td>
</tr>
<tr>
<td>FY10</td>
<td>219</td>
</tr>
<tr>
<td>FY11 R</td>
<td>208</td>
</tr>
<tr>
<td>FY12 R</td>
<td>169</td>
</tr>
<tr>
<td>FY13 R</td>
<td>137</td>
</tr>
<tr>
<td>FY14 A</td>
<td>136.4</td>
</tr>
<tr>
<td>FY15 E</td>
<td>129</td>
</tr>
</tbody>
</table>

Notes: MT - Million Tonnes
P - Provisional and based on monthly returns to the extent available with IBM,
R - Revised figures
A - Actual,
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.
- Increasingly construction is becoming more oriented toward mechanisation to reduce project time and control costs – leading to higher demand for advanced construction equipment.

Concrete equipments sales growth

Construciton 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 earth-moving equipment increased at a CAGR of 13.7 per cent to USD235 million in FY15.

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

FDI inflows in earth-moving equipments
In USD Million

<table>
<thead>
<tr>
<th>Year</th>
<th>FDI Inflows</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY06</td>
<td>74</td>
</tr>
<tr>
<td>FY07</td>
<td>75</td>
</tr>
<tr>
<td>FY08</td>
<td>132</td>
</tr>
<tr>
<td>FY09</td>
<td>134</td>
</tr>
<tr>
<td>FY10</td>
<td>134</td>
</tr>
<tr>
<td>FY11</td>
<td>134</td>
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<tr>
<td>FY12</td>
<td>170</td>
</tr>
<tr>
<td>FY13</td>
<td>175</td>
</tr>
<tr>
<td>FY14</td>
<td>209</td>
</tr>
<tr>
<td>FY15</td>
<td>235</td>
</tr>
</tbody>
</table>

Joint Venture | Indian partner | Foreign partner
-------------|----------------|-----------------|
Ashok Leyland – John Deere | Ashok Leyland 50% | John Deere 50% |
Telco Construction Equipment | Tata Motors 60% | Hitachi 40% |

Source: Department of Industrial Policy & Promotion (DIPP), TechSci Research
Notes: FDI – Foreign Direct Investment
CONSTRUCTION EQUIPMENT

KEY PRODUCTION FACILITIES OF SOME MAJOR PLAYERS

Source: Company websites

Vadodara Machine Shop
Vallabhidhyanagar Facility
Aurangabad Plant
Bengaluru Factory
Bengaluru Plant
Kolar Plant
Mysore Plant
Ranipet Plant
Gummidipoondi Plant
3S Integration Facility Guwahati, Assam
Kumardhubi Factory
Asansol Fabrication Shop
JCB India
BEML
Greaves Cotton
Elcon Eng.
The Ballabgharh facility is the world's largest backhoe loader plant which also manufactures Liftall, the 'pick-&-carry' crane.

**Ballabgarh (Haryana)**

**Two Manufacturing plant in Jaipur**

**Vallabh Vidhyanagar Facility**

**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

**Aurangabad Plant**

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

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

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

**Kolar Plant**

**Ranipet Plant**

**Gummidipoondi Plant**

**Source:** Company websites

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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.
- Custom duty exemption from MAT under 80IA for Infrastructure projects under Union Budget 15-16. 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 FY15-16.

Source: Ministry of Agriculture, Union Budget 2015-16, TechSci Research
Note: MDA - Marketing Development Assistance
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

• 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
• Due to this, companies raised about USD5.5 billion in FY12 and are estimated to have raised about USD4.6 billion during FY13
• HUDCO and REC to raise around USD1.2 billion in 2014

Source: Ministry of Agriculture, Union Budget 2015-16, TechSci Research
Note: RRB - Regional Rural Bank
<table>
<thead>
<tr>
<th>Renting and leasing of equipment</th>
<th>After-sales services</th>
<th>Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>The equipment rental and leasing business in India is smaller compared to Japan, USA and China</td>
<td>Revenues from after-sales service in India are 2–8 per cent, lower than the global average of 12–20 per cent</td>
<td>Export opportunities are abound – both in developed and emerging economies</td>
</tr>
<tr>
<td>Demand for rental equipment is set to witness strong growth in the medium term due to large investments in infrastructure</td>
<td>After-sales market is set to expand to USD0.5 billion by 2015; players can offer maintenance contracts with improved pricing and execution</td>
<td>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</td>
</tr>
<tr>
<td>New players can also explore opportunities in the equipment finance business</td>
<td>While these services contribute only modestly to revenues, they are counter-cyclical and can also boost spare part sales</td>
<td>Opportunities in engineering and design off shoring and equipment exports may arise in the future</td>
</tr>
<tr>
<td>Higher rate of urbanisation would further push growth in this sector</td>
<td>Increasing demand for customised products brings in the opportunity to develop after sale services like on-site training and assistance</td>
<td>Most of the Indian OEMs are cost competitive and therefore have a great opportunity in emerging markets of Asia and Africa</td>
</tr>
<tr>
<td>It is a way to solve the liquidity crunch and boost infrastructure</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Indian Earthmoving & Construction Industry Association Ltd (IECIAL), 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 about 56 countries

* The company has facilities in Kolar gold fields, Bengaluru, Mysore and Palakkad

* 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 stood at USD466 million for FY15

* 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>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>
</tr>
</thead>
<tbody>
<tr>
<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>
</tr>
</tbody>
</table>

Source: Company Annual Report, TechSci Research
Note: BEML - Bharat Earth Movers Limited
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)

Source: Department of Heavy Industry (DHI), TechSci Research
Notes: EMU - Electrical Multiple Unit, Company website
JCB INDIA – LEADING PLAYER IN THE SECTOR

- Backhoe loaders
- Wheeled loaders
- Excavators
- Skid steer loaders
- Pick and carry cranes
- Soil compactor

- Set up operations in India as a JV with Escorts group
- JCB UK acquires 100 per cent stake
- Inaugurates world’s largest Backhoe loader manufacturing facility in Haryana
- Market share of around 50 per cent in backhoe loader segment
- 54+ dealers and 450+ outlets across the country
- JCB builds its millionth machine
- The company inaugurated two manufacturing facilities in Jaipur
- 2014 USD836.64 million Revenue

Source: Company website, TechSci Research
Note: JV - Joint Venture

For updated information, please visit www.ibef.org
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

Source: Jaypee, Yamunaexpressway, TechSci Research
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
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
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<td>2015(Expected)</td>
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Average for the year
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