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EXECUTIVE SUMMARY

Third-largest producer of crude steel

- Total finished steel production in India has increased at a CAGR of 7.45 per cent over FY11–15 to 91.46 million tonnes per annum (MTPA). The country has become the third-largest crude steel producer in 2015, as large public and private sector players strengthen steel production capacity in view of rising demand. Moreover, capacity is also expected to increase from 100 million tonnes (MT) to 112.5 MT by FY16 while in the coming 10 years the country is anticipated to produce 300 MT of steel.
- During FY15, total steel production was 91.46 MT.

Strong growth opportunities

- Huge scope for growth is offered by India’s comparatively low per capita steel consumption and the expected rise in consumption due to increased infrastructure construction and the thriving automobile and railways sectors.
- In 2015, India’s per capita consumption of steel was ~60 kg, which is close to one fourth of the international average, indicating strong growth opportunity.
- National Mineral Development Corporation is expected to increase the iron ore production 75 MTPA until 2021 indicating new opportunities in the sector.

Technological advancements

- Increased government and corporate sector focus on using innovative production techniques for enhancing operational as well as financial performance is a positive.

Rising domestic and international investments

- Domestic players’ investments in expanding and upgrading manufacturing facilities are expected to reduce reliance on imports. In addition, the entry of international players would provide benefits in terms of capital resources, technical know how and more competitive industry dynamics.

Source: World Steel Association, Ministry of Steel, TechSci Research
Robust demand

- Demand would be supported by growth in the domestic market
- Infrastructure, oil & gas and automotives would drive the growth of the industry
- Lower per capita consumption compared to international average

Increasing investments

- To achieve steel capacity build-up of 300 million tonnes per annum (MTPA) by 2025, India would need to invest USD210 billion over the next decade
- 301 MoUs have been signed with various states for planned capacity of about 486.7 MT. In 2015, 4 MOU’s were signed at Dantewada
- Ministry of Steel plans to set up Steel Research and Technology Mission in India to promote R&D activities in the sector

Policy support

- 100 per cent FDI through the automatic route is allowed. Large infrastructure projects in the PPP mode are being formed
- National Steel Policy (NSP) implemented to encourage the industry to reach global benchmarks
- Policy clarity and stability expected in respect of mining leases and forest clearances

Competitive advantage

- India is the world’s third-largest producer of crude steel (up from eighth in 2003); the country is expected to become the second-largest producer of steel by 2016
- Easy availability of low-cost manpower and presence of abundant iron ore reserves make India competitive in the global set up

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Source: TechSci Research

Notes: FDI - Foreign Direct Investment, MT - Million Tonnes, E - Estimated

MoUs - Memorandum of Understanding, 2016E - Estimated figure for the year 2016; These estimates are from Data monitor, PPP - Public-Private Partnership
For updated information, please visit www.ibef.org

EVOLUTION OF INDIAN STEEL SECTOR

1907–1918
- Production of steel started in India (TISCO was setup in 1907)
- IISC was set up in 1918 to compete with TISCO

1923–1948
- Mysore Iron and Steel Company was set up in 1923
- According to the new Industrial Policy Statement (1948), new ventures were only undertaken by the central government

1948–1954
- Hindustan Steel Ltd and Bokaro Steel Ltd were setup in 1954 and 1964, respectively
- In the early 1990s, the public sector dominated steel production
- Private players were in downstream production mainly producing finished steel using crude steel products

1973–1992
- SAIL was created in 1973 as a holding company to oversee most of India’s iron and steel production
- In 1989, SAIL acquired Vivesvata Iron and Steel Ltd
- In 1993, the government set plans in motion to partially privatise SAIL
- Foreign players began entering the Indian steel market
- No license requirement for capacity creation
- Imposition of export duty on iron ore, to focus more on catering growing domestic demand
- Decontrol of domestic steel prices
- Launch of Scheme for promotion of Research and Development in Iron & Steel sector
- Reduction in basic custom duty on the plants and equipments required for initial set up or expansion of iron ore pellet plants & iron ore beneficiation plants, to encourage beneficiation and pelletisation of iron ore fines in the country
- Government is implementing many infra projects such as construction of ports, freight corridors etc which would boost steel industry

2015
- In 2015, India ranked as the third largest crude steel producer in the world, leaving behind United States.
- The total finished steel production in FY16* is 38.370 MT
- During FY16*, Indian steel industry imported a total of 4.572 million tonnes of finished steel

Notes: TISCO - Tata Iron and Steel Company; IISC - Indian Iron & Steel Company; SAIL - Steel Authority of India Ltd
FY16* - April-August 2015
STRUCTURE OF THE STEEL SECTOR

- Form
  - Liquid steel
    - Ingots
    - Semis
  - Crude steel
    - Flat
    - Non-flat
  - Finished steel

- Composition
  - Alloy
    - Stainless
    - Silicon electrical
    - High speed
  - Non-alloy steel
    - Low carbon steel
    - Medium carbon steel
    - High carbon steel

- End use
  - Structural steel
  - Construction steel
  - Rail steel

Source: Report on Indian steel industry by Competition Commission of India, TechSci Research

For updated information, please visit www.ibef.org
STEEL PRODUCTION IN INDIA HAS BEEN GROWING AT A FAST PACE

- In 2015, crude steel production was 62.39 (April to December). Total crude steel production rose at a CAGR of 5.54 per cent over the last five years to reach 81.69 MT in FY14.
- Private sector’s production of crude steel grew at a CAGR of 7.22 per cent between 2010-15.
- Finished steel production increased 7.35 per cent from 81.68 MT to 87.68 MT in FY14; analysts expect production figures to improve rapidly over the next five years, with the Ministry of Steel forecasting production levels at 115.3 MT by FY17.
- The steel sector contributes 2% to the GDP of the nation and provides 6 lakh jobs in the country.

**Total crude steel production (million tonnes)**

<table>
<thead>
<tr>
<th></th>
<th>FY10</th>
<th>FY11</th>
<th>FY12</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15 (April-December)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Sector</td>
<td>16.71</td>
<td>16.99</td>
<td>16.48</td>
<td>16.48</td>
<td>16.77</td>
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<tr>
<td>Private Sector</td>
<td>49.13</td>
<td>53.68</td>
<td>57.81</td>
<td>61.94</td>
<td>64.92</td>
<td>49.79</td>
</tr>
</tbody>
</table>

**Total finished steel production (million tonnes)**

<table>
<thead>
<tr>
<th></th>
<th>FY10</th>
<th>FY11</th>
<th>FY12</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15 (April-December)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Sector</td>
<td>13.25</td>
<td>12.52</td>
<td>12.82</td>
<td>13.44</td>
<td>13.44</td>
<td>13.44</td>
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<tr>
<td>Private Sector</td>
<td>55.37</td>
<td>63.18</td>
<td>68.86</td>
<td>74.24</td>
<td>74.24</td>
<td>55.82</td>
</tr>
</tbody>
</table>

**Source:** Ministry of Steel Annual Report, TechSci Research; Notes: FY - Indian Financial Year (April – March), MT - Million Tonnes, CAGR - Compound Annual Growth Rate; Figures mentioned are as per latest data available.
SHARES IN PRODUCTION: SAIL AND TATA LEAD THE WAY

* In 2014, India stood as the largest sponge iron producer in the world, while the total proposed crude steel capacity during 2016-17* by the private investors is expected to rise by 76.8 MT

* SAIL is the leader in India’s steel sector; in FY15, the company accounted for 11.55 per cent of the country’s finished steel production and 16.32 per cent in the country’s crude steel production. Tata Steel, another household name in the country, leads private sector activity in the steel sector. During 2015, the firm accounted for 10.12 per cent of finished steel production and 11.05 per cent in the country’s crude steel production

India’s crude steel market share by production – FY15*

- **SAIL**: 16.32%
- **Tata Steel**: 11.05%
- **RINL**: 3.84%
- **Other**: 68.79%

India’s finished steel market share by production – FY15*

- **SAIL**: 11.55%
- **TATA**: 10.12%
- **RINL**: 2.84%
- **OTHERS**: 75.49%

Source: Ministry of Steel Annual Report 2015, TechSci Research
Notes: RINL - Rashtriya Ispat Nigam Limited, * - April to December 2014; Figures mentioned are as per latest data available
GROWTH IN MARKET VALUE OF THE INDIAN STEEL SECTOR HAS ALSO BEEN STRONG

- In 2014, the Indian steel sector’s total market value was USD81 billion
- The sector has benefitted from the hike in prices and production, especially since the beginning of the millennium
- Over 2007–16(E), the sector’s market value is estimated to have posted a strong CAGR of 13.7 per cent
- Market value of Indian steel sector is expected to reach USD95.3 billion by FY16

Market value of the Indian steel sector (USD billion)

CAGR: 13.7%

Source: Ministry of External Affairs, TechSci Research
Note: E - Estimates
DEMAND HAS OUTPACED SUPPLY OVER THE LAST FIVE YEARS

* In FY15, the consumption of finished steel grew to 76.99 MT while the CAGR increased to 5.74 per cent during FY08-15

* Total real consumption of steel grew to 74.1 MT in FY14 against 73.5 MT in FY13; over FY08–14, consumption has expanded at a CAGR of 6.04 per cent

* Driven by rising infrastructure development and growing demand for automotives, steel consumption is expected to reach 104 MT by 2017

* It is expected that consumption per capita would increase supported by rapid growth in the industrial sector, and rising infra expenditure projects in railways, roads & highways, etc.

* For FY15, per capita consumption of steel in India was 60 kg against the world average of 222 kg

Real consumption of steel (in million tonnes)

Source: JPC India Steel, Ministry of Steel, TechSci Research
Notes: MT - Million Tonnes
With growth in demand for steel outpacing growth in domestic production over the last few years, import dependency has increased.

India was a net importer of steel till FY13, but turned a net exporter of the same in FY14. In FY15, India imported 9.32 MT of steel while exports declined to 5.59 MT in FY15 from 5.98 MT during FY14.

During FY11-15, import of steel grew at a compounded annual rate of 9.01 per cent, whereas, exports increased at a CAGR of 11.32 per cent.

Total domestic demand for steel is estimated at 113.3 mtpa by 2016-17.

Source: Ministry of Steel, JSPL Presentation, TechSci Research
Notes: FY - Indian Financial Year (April - March), E – Estimates, * - Provisional, ** - Revised Figures FY16* - April-August 2015
Construction and Infrastructure: Key Steel Consumers in India

- Construction is India’s largest steel consumer, accounting for 35 per cent of total consumption in FY14.
  - This is not surprising given the heavy use of steel in this sector and soaring construction and infrastructure activity in the country over the past decade.

- Infrastructure and Automobiles are the next largest consumer, with 32 per cent of total consumption.

Sector-wise steel consumption FY14

Source: Ernst & Young, TechSci Research
Note: Figures mentioned are as per latest data available
### KEY PLAYERS OF THE INDUSTRY

<table>
<thead>
<tr>
<th>Company</th>
<th>Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tata Steel Ltd</td>
<td>Finished steel (non-alloy steel)</td>
</tr>
<tr>
<td>SAIL</td>
<td>Finished steel (non-alloy steel)</td>
</tr>
<tr>
<td>JSW Steel Ltd</td>
<td>Hot-rolled coils, strips and sheets</td>
</tr>
<tr>
<td>Jindal Steel &amp; Power Ltd</td>
<td>Iron and steel</td>
</tr>
<tr>
<td>Ispat Industries Ltd</td>
<td>Hot-rolled coils, strips and sheets</td>
</tr>
<tr>
<td>Welspun-Gujarat Stahl Rohren Ltd</td>
<td>Tubes and pipes</td>
</tr>
<tr>
<td>Bhushan Steel Ltd</td>
<td>Cold-rolled coils, strips and sheets</td>
</tr>
<tr>
<td>Visa Steel Ltd</td>
<td>Ferro Chrome, coke and special steel</td>
</tr>
</tbody>
</table>

*Source: TechSci Research*
NOTABLE TRENDS IN THE INDIAN STEEL INDUSTRY … (1/2)

Growing investments
- To enhance capacity by 488.66 million tonnes, 301 MOUs have been signed with states
- Potential steel addition capacity would attract an investment of USD83 to USD166 billion
- India is expected to become the second largest crude steel producer globally by 2015-16
- Most of the companies in the industry are undertaking modernisation and expansion of plants to be more cost efficient. E.g. SAIL has undertaken modernisation and expansion for its six plants
- The production capacity of SAIL is expected to increase from 13 MTPA to 50 MTPA in 2025 with the total investment of USD24.88 Billion

Strategic alliances
- International Coal Ventures Pvt Ltd, comprising SAIL, RINL, CIL, NTPC and NMDC, has been set up for acquisition of coal mines overseas
- The consortium of SAIL and National Fertiliser Limited (NFL) has been nominated for revival of Sindri Unit of the Fertiliser Corporation of India Limited
- RINL, Vishakhapatnam Steel Plant and the Power Grid Corporation of India Ltd (POWERGRID) signed an MoU to set up a joint venture company to manufacture transmission line towers and tower parts including R&D of new high-end products

Entry of international companies
- Attracted by the growth potential of the Indian steel industry, several global steel players have been planning to enter the market
- National Mineral Development Corporation (NMDC) has signed an MoU with Russia’s third-largest steelmaker, Severstal, for a greenfield steel plant in Karnataka

Source: Ministry of Steel, Ministry of Railways, TechSci Research
Notes: MOUs - Memorandum of Understanding, MT - Million Tonnes
Increased emphasis on technological innovations

- Indian steel companies have now started benchmarking their facilities and processes against global standards, to enhance productivity
- These steps are expected to help Indian companies improve raw material and energy consumption as well as improve compliance with environmental and pollution yardsticks
- Companies are attempting coal gasification and gas-based Direct-Reduced Iron (DRI) production. Other alternative technologies such as Hlsmelt, Finex and ITmk3 being adopted to produce hot metal
- Ministry of Steel has issued necessary direction to the steel companies to frame a strategy for taking up more R&D projects by spending at least 1 per cent of their sales turnover on R&D to facilitate technological innovations in the steel sector.
- Ministry has established a task force to identify the need for technology development and R&D
- Ministry has adopted energy efficiency improvement projects for mills operating with obsolete technologies

Source: Ministry of Steel, TechSci Research
KEY STEEL PLANTS IN INDIA

- Steel integrated plants under SAIL (Bhilai, Rourkela, Bokaro, Durgapur and Burnpur)
- Tata Steel's largest steel plant, based in Jamshedpur
- RINL steel plant in Vishakhapatnam
- Alloy and special steel plants under SAIL (Bhadrawati and Salem); iron and steel plant at Visvesvaraya

Source: Company websites, TechSci Research
STEEL

PORTER’S FIVE FORCES ANALYSIS

JANUARY 2016
For updated information, please visit www.ibef.org

## STEEL

### Porter's Five Forces Analysis

#### Competitive Rivalry

- The steel industry is highly concentrated, with the top five players accounting for more than 70 per cent of the market share.
- Price is generally market determined. Steel companies usually compete on the basis of production capacity, economies of scale, access to raw material, etc.

#### Threat of New Entrants

- Capital intensive, industry players are large and enjoy economies of scale. Some have their own mines for sourcing key raw materials.
- Several regulatory clearances required, including environmental, land acquisition, etc.

#### Substitute Products

- Low threat of substitutes.
- Aluminium and plastics are being used in few cases in automotive and other consumer durable sectors. However, it still does not pose significant threat to steel.

#### Bargaining Power of Suppliers

- Large integrated companies have their own mines to source key raw materials.

#### Bargaining Power of Customers

- Major steel consumption sectors, such as automobiles, oil & gas, shipping, consumer durables and power generation, enjoy high bargaining power and get favourable bulk deals. Smaller customers, however, do not enjoy this benefit.

### JANUARY 2016
STRATEGIES ADOPTED

JANUARY 2016
Companies in the steel industry are investing heavily in expanding their capacity. Major public and private companies, including Tata Steel, SAIL and JSW Steel, are expanding their production capacity. Steel production is expected to reach 200 mtpa by 2020 compared to 91.46 mtpa in 2015.

India is the third-largest steel producer in the world, and is expected to become the second largest by 2016.

The government has stepped up infrastructure spending from the current 5 per cent of GDP to 10 per cent by 2017, and the country is committed to investing USD1 trillion in infrastructure during the 12th Five Year Plan. Considering 15 per cent as steel component in the total investment, the initiative has a potential to generate an additional demand for steel of 18.75 mtpa.

The Ministry of Steel is encouraging R&D activities by providing financial assistance from Steel Development Fund (SDF) and Plan Scheme of the Central Government. Furthermore, the government has allowed 100 per cent FDI through the automatic route in the Indian steel sector.

A long term perspective is to achieve capacity of 300 mtpa by 2025.

Steel companies are strengthening their position through cross border mergers and acquisitions. The focus is on improving existing technology to upgrade production process and developing new value added-products. In 2014, Arcelor Mittal along with Nippon Steel & Sumitomo Metal Corporation acquired ThyssenKrupp Steel USA. Notable deals include Essar Global’s acquisition of Canada-based Algoma Steel.

In the last few years, rapid and stable growth in demand has also prompted domestic entrepreneurs to set up fresh greenfield projects in different states of the country. Mittal Steel announced two 12 mtpa greenfield steel projects, one each in Jharkhand and Orissa.

As India surges ahead in building infrastructure, investments in steel pave the way ahead.
STRONG DEMAND AND POLICY SUPPORT DRIVING INVESTMENTS

**Growing demand**
- Growing demand in the construction industry
- Growing demand in the automotives sector
- Rising demand for consumer durables and capital goods

**Policy support**
- 100 per cent FDI in the steel sector
- Encouragement of sector-based R&D activities by the government
- Reduced custom duty and other favourable measures

**Increasing investments**
- Rising investments from domestic and foreign players
- Increasing number of MoUs signed to boost investment in steel
- Foreign investment of nearly USD40 billion committed in the steel sector

Note: FDI - Foreign Direct Investment
Investment in infrastructure by NITI Aayog is expected to expand at a CAGR of 14.5 per cent over FY12–17

Investment of USD650 billion in the urban infrastructure sector is expected in the next 20 years

The erstwhile Planning Commission expects total infrastructure investment to be USD1 trillion in the 12th Five-Year Plan (2012–17), from USD428 billion in the 11th Five-Year Plan

This increase in infrastructure investment is set to raise steel demand by roughly 18.75 mtpa

As per Tata Steel's estimates, USD33.06 billion would be invested in the steel sector in the coming years

Projected values of investment in infrastructure (USD billion)

CAGR: 14.5%

Source: TechSci Research, Tata Steel
Note: MTPA - Million Tonnes Per Annum
CAPITAL GOODS, CONSUMER DURABLES AND AUTOMOTIVES FURTHER DRIVING STEEL GROWTH

- Over FY05–20F, the consumer durables sector has expanded at a CAGR of 12.54 per cent as growth in disposable income resulted in rise in their demand.
- The consumer durables market is expected to reach USD12.5 billion in FY16.
- The capital goods and consumer durables sectors are expected to grow at 7.5–8.8 per cent over 2012–21.
- Automotives production expanded at a CAGR of 10.69 per cent over FY09–15.
- Over FY14–21, the automotive sector is projected to rise at a CAGR of 10.2 per cent.

**Consumer durables market size (USD billion)**

**Total automobile production in India (million units)**

\[\text{CAGR: 12.54\%}\]

\[\begin{array}{cccccc}
\text{FY05} & \text{FY06} & \text{FY07} & \text{FY08} & \text{FY09} & \text{FY10} \\
3.5 & 3.8 & 4.2 & 4.7 & 5.2 & 6.3 \\
\text{FY11} & \text{FY12} & \text{FY13} & \text{FY14} & \text{FY15} & \text{FY16E} & \text{FY20F} \\
7.3 & 7.3 & 7.4 & 9.7 & 12.5 & 20.6 \\
\end{array}\]

\[\begin{array}{cccccc}
\text{Passenger Vehicles} & \text{Commercial Vehicles} & \text{Two & Three Wheelers} \\
\text{FY10} & \text{FY11} & \text{FY12} & \text{FY13} & \text{FY14} & \text{FY15} \\
2.36 & 0.57 & 2.98 & 0.76 & 3.15 & 0.93 \\
\end{array}\]

*Source: SIAM, JSPL presentation, Corporate Catalyst India, TechSci Research*

Notes: E - Estimate; F - Forecast, FY - Indian Financial Year (April - March)
In view of the sector’s changed dynamics, globally as well as domestically, the Ministry of Steel has initiated the process of drafting a new National Steel Policy to replace the existing National Steel Policy of 2005.

According to the final draft of National Steel Policy 2015, government would permit 100 per cent Foreign Direct Investment (FDI) through the automatic route for the steel sector.

A new scheme, ‘The scheme for the promotion of R&D in the iron and steel sector’, has been approved with budgetary provision of USD24.6 million to initiate and implement the provisions of the scheme as per the 11th Five-Year Plan which has continued in the 12th Five Year Plan.

The development of technology for Cold-Rolled Grain Oriented (CRGO) steel sheets and other value-added products is also included under the policy purview and is allocated USD6.7 million.

Source: Ministry of Steel, TechSci Research
**Foreign Direct Investment**

- 100 per cent FDI through the automatic route is allowed in the Indian steel sector

**Rise in export duty**

- The government hiked the export duty on iron ore to 30 per cent ad valorem on all varieties of iron ore (except pellets)
- Export duty on chrome ore and concentrates has been enhanced to 30 per cent ad valorem

**Reduction in custom duty on plants & equipment**

- The government has reduced the basic custom duty on the plants and equipments required for initial set up or expansion of iron ore pellets plants and iron ore beneficiation plants from 7.5/5 per cent to 2.5 per cent
- Customs duty on imported flat-rolled stainless steel products has been increased to 10 per cent from 7.5 per cent
- Basic customs duty on steel grade dolomite and steel grade limestone is being reduced from 5 per cent to 2.5 per cent
- Basic customs duty is being reduced from 10 per cent to 5 per cent on forged steel rings used in the manufacture of bearings of wind-operated electricity generators

**Push due to Make in India initiative**

- Going forward, the Make in India initiative and policy decisions taken under it are expected to augment the country’s steel production capacity and resolve issues related to the mining industry

*Source: The Economic Times, Ministry of Steel, Business Standard, Make In India, TechSci Research*
MAJOR INITIATIVES TAKEN BY THE MINISTRY OF STEEL

- Export duty on iron ore has been increased to 30 per cent ad valorem on all varieties of iron ore (except pellets), to preserve iron ore resources for domestic use.
- As per the government’s decision, the Government of India’s 51 per cent shareholding in Eastern Investments Company Limited (EIL), under Bird Group of Companies, was transferred to RINL.
- New Research and Development policy for the steel sector have been finalised/adopted for implementation.
- New techno-economic benchmarks have been evolved on international patterns to improve performance of steel PSUs; implementation is being monitored closely.
- The Steel Ministry is preparing a feasibility report to merge all the small PSUs. Feasibility study is under preparation for the merger of MSTC* and Ferro Scrap Nigam Limited, Bhilai (FSNL).
- Under the Ministry, the Joint Plant Committee (JPC) studied 300 districts, 1,500 villages, 4,500 manufacturers and 8,000 retailers spread over India’s 28 states and 7 union territories to assess steel demand in the rural areas and examine the potential to increase steel consumption levels.
- The Ministry of Steel set up the Steel Innovation Council to promote innovative ideas in the steel sector.
- The National Steel Policy 2015 for the forthcoming years is under finalisation.
- To lead the research in the steel sector, Ministry will be setting up Steel Research and Technology Mission of India (SRTMI) with an initial corpus of USD33 million.
- Government has initiated Project Monitoring Group (PMG) constituted under the Cabinet Secretariat in order to fast track various clearance issues that results in the delay in investments in the steel industry.

Source: Ministry of Steel, Ministry of External Affairs, TechSci Research
Notes: FSNL: Ferro Scrap Nigam Ltd, *Previously known as Metal Scrap Trade Corporation Limited
### STEEL SEZs IN INDIA

<table>
<thead>
<tr>
<th>Developer</th>
<th>Location</th>
<th>Product</th>
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<tbody>
<tr>
<td>Viraj Profiles Ltd</td>
<td>Thane, Maharashtra</td>
<td>Stainless steel engineering products</td>
</tr>
<tr>
<td>SAIL Salem SEZ Pvt Ltd</td>
<td>Salem, Tamil Nadu</td>
<td>Steel</td>
</tr>
<tr>
<td>Orissa Industrial Infrastructure Development Corporation</td>
<td>Jajpur, Orissa</td>
<td>Metallurgical-based engineering and ancillary/downstream industry</td>
</tr>
</tbody>
</table>

*Source: Formal approvals granted in the Board of Approvals after the SEZ rules coming into force, Special Economic Zones in India website, www.sezindia.nic.in*
THE SECTOR WITNESSED RISING INVESTMENTS IN THE LAST DECADE

<table>
<thead>
<tr>
<th>Date announced</th>
<th>Acquirer name</th>
<th>Target name</th>
<th>Value of deal (USD million)</th>
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<tbody>
<tr>
<td>Aug-14</td>
<td>JSW Steel Ltd</td>
<td>Welspun Maxsteel Ltd</td>
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<tr>
<td>Apr-14</td>
<td>JSW Steel Ltd</td>
<td>Vallabh Tinplate Pvt Ltd</td>
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<td>Mar-14</td>
<td>Lalitanjali Group Pvt Ltd</td>
<td>Centom Industries Ltd</td>
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<tr>
<td>Dec-13</td>
<td>Venus Insec Pvt Ltd</td>
<td>Goodluck Steel Tubes Ltd</td>
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<tr>
<td>Oct-13</td>
<td>JSW Projects Ltd</td>
<td>IST Steel &amp; Power Ltd</td>
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<tr>
<td>Aug-13</td>
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<td>Kridhan Infra Solutions Pvt</td>
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<tr>
<td>Jul-13</td>
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<td>Amex Alloys Pvt Ltd</td>
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<td>Apr-13</td>
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<td>Nov-12</td>
<td>Rabale Engineering India Ltd</td>
<td>Pradeep Metals Ltd</td>
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<tr>
<td>Nov-12</td>
<td>Suncoke Energy Inc</td>
<td>Visa Steel Ltd-Coke division</td>
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<td>Oct-12</td>
<td>Aum Saw Pipes &amp; Industries Pvt</td>
<td>Greenearth Resources</td>
<td>2.77</td>
</tr>
</tbody>
</table>

**Cumulative FDI inflows**

**Period: April 2000 to September 2015**

<table>
<thead>
<tr>
<th>Sector</th>
<th>Value of FDI inflow (USD million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metallurgical industries</td>
<td>USD8.687 billion</td>
</tr>
<tr>
<td>Per cent of total FDI inflow</td>
<td>3.28</td>
</tr>
</tbody>
</table>

Source: Thomson ONE Banker, “Fact Sheet on Foreign Direct Investment (FDI)”, Department of Industrial Policy and Promotion
### PLANNED CAPACITY ADDITIONS BY 2016-17

**Crude steel capacity addition plans up to 2015-16 (in mtpa) for private sector companies**

<table>
<thead>
<tr>
<th>Company</th>
<th>Existing capacity</th>
<th>Brownfield expansion</th>
<th>Greenfield expansion</th>
<th>Total capacity addition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tata Steel Limited</td>
<td>9.7</td>
<td>0.4</td>
<td>10</td>
<td>20.1</td>
</tr>
<tr>
<td>Essar Steel Limited</td>
<td>10</td>
<td>1.46</td>
<td>0</td>
<td>11.46</td>
</tr>
<tr>
<td>JSW Steel Limited</td>
<td>14.3</td>
<td>3.8</td>
<td>0</td>
<td>18.1</td>
</tr>
<tr>
<td>Jindal Steel &amp; Power Limited</td>
<td>4.5</td>
<td>1.6</td>
<td>7.5</td>
<td>13.6</td>
</tr>
<tr>
<td>Bhushan Steel Limited</td>
<td>5.6</td>
<td>0</td>
<td>3.9</td>
<td>9.5</td>
</tr>
<tr>
<td>Bhushan Power &amp; Steel Ltd</td>
<td>2.5</td>
<td>0</td>
<td>0</td>
<td>2.5</td>
</tr>
<tr>
<td>Monnet Ispat &amp; Energy Ltd</td>
<td>1.5</td>
<td>1.2</td>
<td>0</td>
<td>2.7</td>
</tr>
<tr>
<td>Electrosteel Steel</td>
<td>1.7</td>
<td>0</td>
<td>2.51</td>
<td>4.21</td>
</tr>
<tr>
<td>Visa Steel Ltd</td>
<td>0.5</td>
<td>1.0</td>
<td>0</td>
<td>1.5</td>
</tr>
<tr>
<td>POSCO India Project</td>
<td>0</td>
<td>0</td>
<td>4.0</td>
<td>4.0</td>
</tr>
</tbody>
</table>

*Source: Ministry of Steel Annual Report, Joint Plant Committee*

*Note: MTPA - Million Tonnes Per Annum*
OPPORTUNITIES … (1/2)

Automotive
- The automotives industry is forecasted to grow in size by USD74 billion to 260-300 billion from 2015 to 2026.
- With increasing capacity addition in the automotive industry, demand for steel from the sector is expected to be robust.

Capital goods
- The capital goods sector accounts for 11 per cent of steel consumption and expected to increase 14/15 per cent by 2025-26, and has the potential to increase in tonnage and market share.
- Corporate India’s capex is expected to grow and generate greater demand for steel.

Infrastructure
- The infrastructure sector accounts for 9 per cent of steel consumption and expected to increase 11 per cent by 2025-26.
- Due to such a huge investment in infrastructure the demand for long steel products would increase in the years ahead.

Airports
- More and more modern and private airports are expected to be set up.
- Development of Tier-II city airports would sustain consumption growth.
- Estimated steel consumption in airport building is likely to grow more than 20 per cent over next few years.

Source: Make In India, SIAM, Ministry of Steel
Notes: Capex – Capital Expenditure, P - Provisional
### Railways
- The Dedicated Rail Freight Corridor (DRFC) network expansion would be enhanced in future.
- Gauge conversion, setting up of new lines and electrification would drive steel demand.
- Indian Railways started the PPP mode of funding and has already awarded projects worth around USD1.73 billion during the first seven months (April-October) of FY16.

### Oil and gas
- The liquid fuel transportation pipeline network is likely to grow from the present 16,800 km to 22,000 km in 2014.
- This would lead to an increase in demand of steel tubes and pipes, providing a lucrative opportunity to the steel industry.
- Investment of USD70 billion are expected during 2012-17.

### Power
- The government targets capacity addition of 88.5 GW under the 12th Five-Year Plan (2012–17) and around 100 GW under the 13th Five-Year Plan (2017–22).
- Both generation and transmission capacities would be enhanced, thereby raising steel demand from the sector.

### Rural India
- Rural India is expected to reach per capita consumption of 12.11 kg to 14 kg for finished steel by 2020.
- Policies like Bharat Nirman and Rajiv Gandhi Awaaz Yojna are driving growing demand for construction steel in rural India.

Source: Make In India, TechSci Research
Jindal Steel and Power Limited

Incorporated in 1979, Jindal Steel and Power Limited (JSPL) is an integrated steel producer and the largest coal-based sponge iron manufacturer in the world. The company has an installed steel production capacity of 3 MTPA at Raigarh in Chhattisgarh. JSPL is engaged in manufacturing long products and is specialised in producing long rails for railways and large sized H-beams as well as columns for the infrastructure and construction sector.

JSPL also has significant presence across the mining, power generation and infrastructure sectors.

New and expansion projects include setting up of a 7 MTPA integrated steel plant in Chhattisgarh, 12 MTPA integrated steel plant in Jharkhand and a 12.5 MTPA integrated steel plant in Orissa.

- Achievements:
  - 2014 - Company has commissioned the billet caster plant with capacity of 6 MTPA at Angul with record time of one year
  - 2015 - Company has created history with its Raigarh steel facility producing 10,000 tonnes of crude steel in a single day

Projected crude steel production (million tonnes)

<table>
<thead>
<tr>
<th></th>
<th>FY15</th>
<th>FY18E</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12.63</td>
<td>31.75</td>
</tr>
</tbody>
</table>

CAGR: 36.0%

Source: Ministry of Steel, Company website (www.jindalsteelpower.com), TechSci Research E- Estimated
JINDAL STEEL AND POWER LTD: REAPING BENEFITS OF PRUDENT INVESTMENTS … (2/3)

**Sale of steel (million tonnes)**

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Finished Steel Products</th>
<th>Semi - Steel Products</th>
<th>Pellets</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY06</td>
<td>0.3</td>
<td>0.5</td>
<td>0.2</td>
</tr>
<tr>
<td>FY07</td>
<td>0.5</td>
<td>0.7</td>
<td>0.7</td>
</tr>
<tr>
<td>FY08</td>
<td>1.0</td>
<td>1.6</td>
<td>1.4</td>
</tr>
<tr>
<td>FY09</td>
<td>1.6</td>
<td>2.0</td>
<td>1.6</td>
</tr>
<tr>
<td>FY10</td>
<td>1.6</td>
<td>2.1</td>
<td>1.8</td>
</tr>
<tr>
<td>FY11</td>
<td>2.3</td>
<td>3.0</td>
<td>2.8</td>
</tr>
<tr>
<td>FY12</td>
<td>2.8</td>
<td>3.8</td>
<td>2.9</td>
</tr>
<tr>
<td>FY13</td>
<td>2.8</td>
<td>4.0</td>
<td>2.9</td>
</tr>
<tr>
<td>FY14</td>
<td>2.2</td>
<td>4.2</td>
<td>2.5</td>
</tr>
<tr>
<td>FY15</td>
<td>2.5</td>
<td>3.2</td>
<td></td>
</tr>
</tbody>
</table>

**Financial growth (USD million)**

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Gross Revenue</th>
<th>PBIDT</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY06</td>
<td>1,488</td>
<td>103</td>
</tr>
<tr>
<td>FY07</td>
<td>1,803</td>
<td>816</td>
</tr>
<tr>
<td>FY08</td>
<td>2,287</td>
<td>431</td>
</tr>
<tr>
<td>FY09</td>
<td>2,287</td>
<td>438</td>
</tr>
<tr>
<td>FY10</td>
<td>1,596</td>
<td>395</td>
</tr>
<tr>
<td>FY11</td>
<td>2,287</td>
<td>634</td>
</tr>
<tr>
<td>FY12</td>
<td>3,315</td>
<td>818</td>
</tr>
<tr>
<td>FY13</td>
<td>3,007</td>
<td>721</td>
</tr>
<tr>
<td>FY14</td>
<td>3,199</td>
<td>958</td>
</tr>
<tr>
<td>FY15</td>
<td>3,218</td>
<td>910</td>
</tr>
<tr>
<td>FY16*</td>
<td>1,496</td>
<td>241</td>
</tr>
</tbody>
</table>

Source: Company website (www.jindalsteelpower.com)
Notes: Company clubs iron and steel segment’s performance; PBIDT (Profit Before Interest, Depreciation and Tax)
FY16* - April-September 2015
Established in 1983, Bhushan Steel Limited (BSL) is the third-largest secondary steel producer in India. The company is headed towards an installed capacity of 7 MTPA (post completion of Phase III; 4.7 MTPA of primary and 2.2 MTPA of secondary). It primarily manufactures flat steel products for the automobile industry.

Products – Cold-rolled closed annealed coils, galvanised coils and sheets, high tensile steel strapping, colour coated coils, galume sheets and coils, hardened and tempered steel strips, billets, sponge iron, precision tubes and wire rods.

- Milestones:
  - Emerged as third largest cold rolled steel producer with an installed capacity of 1 MT and sales more than USD1 Billion
  - Transformed itself as one of the largest and only Cold Rolled Steel plant in India

Projected crude steel production (million tonnes)

Source: Company website (www.bhushansteel.com), Ministry of Steel Annual Report 2015, TechSci Research E- Estimated
BSL: TRANSITION INTO INTEGRATED STEEL PRODUCER, A STRATEGIC MOVE … (2/3)

Steel production (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>
</tr>
</thead>
<tbody>
<tr>
<td>Gross Revenue</td>
<td>1</td>
<td>1.2</td>
<td>1.1</td>
<td>1.6</td>
<td>1.8</td>
<td>2.1</td>
<td>2.4</td>
<td>1.1</td>
<td>0.97</td>
</tr>
</tbody>
</table>

Financial growth (USD million)

<table>
<thead>
<tr>
<th>Year</th>
<th>FY06</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>
</tr>
</thead>
<tbody>
<tr>
<td>Gross Revenue</td>
<td>693</td>
<td>928</td>
<td>1161</td>
<td>1178</td>
<td>1266</td>
<td>1662</td>
<td>2251</td>
<td>2139</td>
<td>1766</td>
<td>1008</td>
</tr>
<tr>
<td>NPAT</td>
<td>-208</td>
<td>-241</td>
<td>-208</td>
<td>-241</td>
<td>-208</td>
<td>-241</td>
<td>-208</td>
<td>-241</td>
<td>-208</td>
<td>-241</td>
</tr>
</tbody>
</table>

Source: Company website (www.bhushansteel.com), TechSci Research

Note: NPAT - Net Profit After Tax
FY16* - April-September 2015

For updated information, please visit www.ibef.org
STEEL

BSL: TRANSITION INTO INTEGRATED STEEL PRODUCER, A STRATEGIC MOVE … (3/3)

- Other developed products
- Sponge iron
- Alloy billets
- Color coated tiles and pipes
- Galvanised
- Cold-rolled

- Organic growth in steel and flat products
- Partnership with Japanese steel producer, Sumitomo
- Capacity expansion (0.9 MT to 2.5 MT)
- Technological upgradation and further capacity addition
- Primary steel production in Odisha
- Company has 6,047 employees as of March 2014
- Secondary steel production in UP
- FY06
- FY15 USD1.76 billion turnover
- FY16* USD1 billion turnover

Note: FY16* - Data is for Half Year Ended September 2015

For updated information, please visit www.ibef.org
Tata Steel Limited

Established in 1907 by the visionary founder – JN Tata, Tata Steel is among the top ten global steel companies with an annual crude steel capacity of nearly 30 MTPA.

The company caters to sectors such as automotive, construction, consumer goods, engineering, packaging, energy & power, ship building, rail and defense & security.

- Milestones:
  - 2009 – Tata Ryerson and HMPCL merge with Tata Steel
  - 2007 – Tata Steel and Corus were integrated at USD12 billion, making Tata Steel one of the top ten global steel producers
  - 2013 – Tata Steel made a transition from open cast mining to underground mining
  - 2014 – Company would increase its crude steel capacity from the current level of 9.7 MTPA to 33.2 MTPA by FY18

Projected crude steel Production (million tonnes)

<table>
<thead>
<tr>
<th>Year</th>
<th>Production (million tonnes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY15</td>
<td>9.3</td>
</tr>
<tr>
<td>FY18E</td>
<td>33.2</td>
</tr>
</tbody>
</table>

CAGR: 51.83%

STEEL

TATA STEEL: A COMPELLING GROWTH STORY … (2/3)

Production and sale of steel (million tonnes)

Financial growth (USD billion)*

Source: Company website (www.tatasteel.com), TechSci Research
Notes: NPAT - Net Profit After Tax,
*Financials reflect figures of Indian operations
FY16*-April-September 2015

For updated information, please visit www.ibef.org
Developed products

Iron making and castings

Alloy steel

Wheel, tyre and axle plant (railways)

Pig iron and steel ingots

Blast furnace

1912 Production capacity (1.6 lakh tonnes)

Organic growth in steel

1995 Diversification (coal injection unit)

1997 Capacity expansion (3 MT)

1999 Technological upgradation

2001 M&A (Tata-Corus)

2006 FY06 USD3,625 million turnover

2011 FY15 USD6.9 billion turnover*

2013 Announced plans to merge Tata Metaliks Ltd and Tata Metaliks Kuboto Pipes Ltd with itself in April 2013

2016 FY16* USD3.05 billion turnover*

Source: Company website (www.tatasteel.com), TechSci Research
Notes: M&A - Mergers and Acquisitions, * - Revenues from Indian operations; FY16* - April-September 2015
JSW STEEL: SURGING AHEAD ON COST COMPETITIVENESS … (1/3)

Established in 1994, JSW Steel Ltd manufactures iron and steel products in India and abroad. The company has an installed capacity of 14.3 million tonnes per annum.

Products – Hot-rolled coils, plates and sheets; cold-rolled coils and sheets; galvanised sheets and coils, galvume; TMT bars, wire rods, cast products, pre-painted galvanised coils, sheets.

- Achievements:
  - 2011 – National Sustainability Award by the Indian Institute of Metals
  - 2009 – Gold Award in the Metal and Mining sector
  - 2008 – National Energy Management Award instituted by CII
  - 2014 – Company plans to increase the crude steel capacity to 47 MTPA by FY18 from the current level of 14.3 MTPA
  - In FY15, JSW reported net sales of USD8.79 billion and became the largest steel producer in the country leaving behind SAIL and Tata Steel

Projected crude steel production (million tonnes)

<table>
<thead>
<tr>
<th></th>
<th>FY15</th>
<th>FY18E</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>14.6</td>
<td>47</td>
</tr>
</tbody>
</table>

CAGR: 47.7%

Source: Ministry of Steel Annual Report 2015, Company website (www.jsw.in), TechSci Research E- Estimated
JSW STEEL: SURGING AHEAD ON COST COMPETITIVENESS … (2/3)

Product group-wise sales (million tonnes)

Financial growth (USD million)

Source: Company website (www.jsw.in)
FY16* - April-September 2015
JSW STEEL: SURGING AHEAD ON COST COMPETITIVENESS … (3/3)

1994
- Production capacity (1.25 MTPA)

1994
- ISO accreditations

1994
- JV formed to explore, develop & mine iron ore with MML

1994
- Organic growth and integration

1994
- Capacity addition 7.8 MT

FY06
- USD1,417 million turnover

FY15
- Saleable steel sales to reach 12.03 million tonnes

FY15
- USD7.6 billion turnover

FY16*
- USD3.25 billion turnover

Notes: JV - Joint Venture, TMT - Thermo Mechanically Treated, MML - Mysore Minerals Limited, MTPA - Million Tonnes Per Annum

FY16* - April-September 2015
Indian Stainless Steel Development Association
L-22/4, DLF Phase-II
Gurgaon, Haryana –122 002
Phone: 91-124-4375501
Fax: 91-124-4375509
E-mail: nissda@gmail.com
GLOSSARY

* **CAGR**: Compound Annual Growth Rate
* **FDI**: Foreign Direct Investment
* **FY**: Indian Financial Year (April to March)
  > So FY10 implies April 2009 to March 2010
* **JV**: Joint Venture
* **MoU**: Memorandum of Understanding
* **MT**: Million Tonnes
* **MTPA**: Million Tonnes Per Annum
* **NPAT**: Net Profit After Tax
* **SEZ**: Special Economic Zone
* **TMT**: Thermo Mechanically Treated
* **USD**: US Dollar
* Wherever applicable, numbers have been rounded off to the nearest whole number

For updated information, please visit www.ibef.org
### Exchange rates (Fiscal Year)

<table>
<thead>
<tr>
<th>Year</th>
<th>INR equivalent of one USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004–05</td>
<td>44.81</td>
</tr>
<tr>
<td>2005–06</td>
<td>44.14</td>
</tr>
<tr>
<td>2006–07</td>
<td>45.14</td>
</tr>
<tr>
<td>2007–08</td>
<td>40.27</td>
</tr>
<tr>
<td>2008–09</td>
<td>46.14</td>
</tr>
<tr>
<td>2009–10</td>
<td>47.42</td>
</tr>
<tr>
<td>2010–11</td>
<td>45.62</td>
</tr>
<tr>
<td>2011–12</td>
<td>46.88</td>
</tr>
<tr>
<td>2012–13</td>
<td>54.31</td>
</tr>
<tr>
<td>2013–14</td>
<td>60.28</td>
</tr>
<tr>
<td>2014–15</td>
<td>61.06</td>
</tr>
<tr>
<td>2015-16(Expected)</td>
<td>61.06</td>
</tr>
</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>
</tr>
<tr>
<td>2007</td>
<td>41.34</td>
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<td>2008</td>
<td>43.62</td>
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<tr>
<td>2009</td>
<td>48.42</td>
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<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>
</tr>
<tr>
<td>2013</td>
<td>58.44</td>
</tr>
<tr>
<td>2014</td>
<td>61.03</td>
</tr>
<tr>
<td>2015(Expected)</td>
<td>63.72</td>
</tr>
</tbody>
</table>

Source: Reserve bank of India, Average for the year
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