Statements in this presentation describing the Company’s performance may be “forward looking statements” within the meaning of applicable securities laws and regulations. Actual results may differ materially from those directly or indirectly expressed, inferred or implied. Important factors that could make a difference to the Company’s operations include, among others, economic conditions affecting demand/supply and price conditions in the domestic and overseas markets in which the Company operates, changes in or due to the environment, Government regulations, laws, statutes, judicial pronouncements and/or other incidental factors.
A. Roadmap 2025
B. Focusing capital for long term value
C. Tata Steel India: Marketing and Sales
D. Tata Steel Kalinganagar: A significant milestone
E. Bhushan Steel: The first 6 months
F. Our Digital Journey
Committed towards excellence in Safety, Health & Sustainability

### SAFETY
- WSA has recognized Tata Steel’s Process Safety Management practices as one of the best practices for the year 2018
- 100% company run buses at TSJ are equipped with RFID & online GPS tracking system

| Reduction in LTIFR<sup>1</sup> in last 10 years | 78% |

### HEALTH
- 17 Industrial Hygiene hazards control projects implemented to minimize the exposure level
- Runathons across locations
- Bi-monthly theme based health awareness campaigns<sup>2</sup>
- Mental health e-learning campaigns at TSE

| High risk cases<sup>3</sup> transformed into moderate/low risk till date | 57% |

### SUSTAINABILITY
- Industry Leader in DJSI 2018 Assessment amongst 24 companies in Global Steel Industry
- TSJ: Specific Dust Emission reduced by 63% since FY13
- TSE: CO<sub>2</sub> emission intensity reduced by 5.8% since FY13

| Solid Waste Utilization in 2QFY19 | 95% |

---

1. LTIFR: Lost Time Injury Frequency Rate; WSA: World Steel Association; TSJ: Tata Steel Jamshedpur; TSK: Tata Steel Kalinganagar; TSE: Tata Steel Europe; DJSI: Dow Jones Sustainability Index 2. On heat stress, hypertension & heart care covering around 7000 employees & contract employees; 3. High risk cases across Tata Steel India as per the health index measurement based on BMI, cholesterol, blood pressure and sugar
Our strategic objectives shape our business model

1. Industry leadership in steel
2. Consolidate position as global cost leader
3. Insulate revenues from steel cyclicality
4. Future ready for a digital and sustainable world
Tata Steel India is scaling up to de-risk and drive returns

Scale India capacity upto 30MTPA by 2025

- **Tata Steel India FY18**: 13 MTPA
- **Bhushan Steel**: ~5.6 MTPA
- **UML's steel business**: 1 MTPA
- **TSK Ph II**: 5 MTPA
- **(TSJ/ TSK/ BSL/ Inorganic)**: 5.4 MTPA
- **Tata Steel India 2025**: 30 MTPA

India includes Tata Steel Standalone (13 MTPA) and Bhushan Steel (5.6 MTPA).

1. Post tkTSE JV and TSK Phase – II: 26.8 MTPA
2. India includes Tata Steel Standalone (13 MTPA), Bhushan Steel (5.6 MTPA), proposed acquisition of Usha Martin’s steel business (1 MTPA), and TSK – Phase II (5 MTPA).
3. India capacity target: 30 MTPA by 2025 through organic and inorganic route.

Value addition, operational and capital efficiency improvement

Downstream capability and complementary product mix

Long products growth strategy
Tata Steel India is the industry leader

- Strong market presence and a leader in chosen market segments
- Differentiated products and service offerings
- ~69% of revenues through enriched and value added product mix in 1HFY19
- Consolidating India leadership position with organic and inorganic expansions

Tata Steel India includes Tata Steel standalone and Bhushan Steel
Tata Steel India is the most integrated steel company and a global cost leader with benchmark operational efficiency

- India’s most integrated steel manufacturer, with current steel making capacity of 18.6 MTPA
- Captive mines provide raw material self sufficiency till 2030 (Iron ore: 100% and Coal: >25%)
- Global benchmark in capacity utilization
- Indian benchmark in operating KPIs; Culture of continuous improvement
- One of the lowest cost producer globally

Source: Company data and Tata Steel; Severstal – Cherepovets; NLMK – Lipetsk; Tata Steel – Jamshedpur; MMK – Magnitogorsk; JFE Steel – Fukuyama; Hyundai Steel – Dangjin; NSSMC(1)– Kashima, Nippon Steel & Sumitomo Metal Corporation; JSW Steel – Vijayanagar; POSCO(1) – Gwangyang; NSSMC(2) – Oita, Nippon Steel & Sumitomo Metal Corporation;; AM – Arcelormittal Dunkerque; JFE Steel - Kurashiki Steel Works; POSCO(2) – Pohang; CSN - Volta Redonda
Tata Steel is pursuing several initiatives to insulate revenues from steel cyclicality

<table>
<thead>
<tr>
<th>Initiatives</th>
<th>Targets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expansion of downstream products capacity</td>
<td>At least &gt; 30% of total volume from downstream products</td>
</tr>
<tr>
<td>Services and Solutions</td>
<td>~20% of revenue by 2025</td>
</tr>
<tr>
<td>Grow beyond Steel - New materials (Graphene, Carbon</td>
<td>&gt;10% of revenue by 2025</td>
</tr>
<tr>
<td>fibre reinforced polymer, Advanced ceramics etc.)</td>
<td></td>
</tr>
</tbody>
</table>
Tata Steel is working towards being future ready

- Leverage digital technology
- Increase focus on R&D and technology
- Mainstreaming sustainability to become “Green” steel
- Safety Leadership: Achieve Zero LTI
- Industry leadership in CSR - license to operate

*R&D: Research & Development; LTI: Loss Time Injury; CSR: Corporate Social Responsibility*
Tata Steel – Investor Day 2018
Focusing capital for long term value
Koushik Chatterjee – Executive Director and Chief Financial Officer
Agenda

A. Roadmap 2025
B. Focusing capital for long term value
C. Tata Steel India: Marketing and Sales
D. Tata Steel Kalinganagar: A significant milestone
E. Bhushan Steel: The first 6 months
F. Our Digital Journey
### Strategic imperatives for long term value creation

#### Reshaping Tata Steel
- Focus on Indian markets
- Create sustainable portfolio in Europe
- Generate higher operating cash flows for Balance Sheet redesign and shareholders returns

#### Portfolio priorities
- Leverage Kalinganagar footprint by 5MTPA expansion
- Acquisition of Value added capacity – Bhushan Steel and UML’s Steel business
- Capital deployment in value added downstream assets and ventures
- Divestment, strategic restructuring and monetization of non synergistic ventures

#### Building resilience to manage downcycle
- Enhance internal cash generation
- Continue pursuit of operational excellence to drive efficiency & productivity
- Cost take out through structured programs
- Reduction in leverage
- Drive system synergies from acquisitions
Drivers for long term value

- Reduction of leverage
- Cost reduction for margin management
- Synergies from acquisition
- Enhance organic cash flow from business
- Capital allocation efficiency
- Divestments

Strategic priorities
‘Shikhar 25’: delivering value through bottoms up margin management

A structured productivity and operational excellence program have offset adverse cost impact

Several initiatives across the organisation focuses on continuous improvements and cost savings

FY18: implemented 11,963 number of suggestions; key levers include –

- Improvement in fuel rate in Blast Furnaces and throughput
- Increase in throughput at West Bokaro collieries
- Reduction in the spend base of Inbound/Outbound logistics, packaging cost and energy efficiency

**Sustained improvement savings every year (Rs. Crores)**

<table>
<thead>
<tr>
<th></th>
<th>FY14</th>
<th>FY15</th>
<th>FY16</th>
<th>FY17</th>
<th>FY18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Savings (Rs. Crores)</td>
<td>1,614</td>
<td>1,859</td>
<td>3,094</td>
<td>3,400</td>
<td>2,594</td>
</tr>
</tbody>
</table>

Chart figures in Rs. Crores
### Synergy potential from recent acquisitions

#### Bhushan Steel (Rs. Crores)

<table>
<thead>
<tr>
<th>Acquisition Price</th>
<th>Raw Material Synergies</th>
<th>Operational Synergies</th>
<th>Sales &amp; Marketing Synergies</th>
<th>24 months from zero date</th>
<th>Replacement Cost + NPV of Time to Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>35,200</td>
<td></td>
<td></td>
<td></td>
<td>~45,000</td>
<td>43,000+</td>
</tr>
</tbody>
</table>

- Raw Material synergies includes Tata Steel’s captive ore and renegotiations of raw material contracts
- Operational synergies includes use of BEL’s surplus power
- Selling & Marketing synergies includes use of common brands and sale of slabs from BSL to TSL

#### Usha Martin’s Steel Business (Rs. Crores)

<table>
<thead>
<tr>
<th>Acquisition Price</th>
<th>Raw Material &amp; Network Synergies</th>
<th>Other Operating Synergies</th>
<th>Selling, General &amp; Administrative Synergies</th>
<th>36 months from zero date</th>
<th>Replacement Cost + NPV of Time to Market</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5,500+</td>
<td></td>
<td></td>
<td></td>
<td>6,000+</td>
</tr>
</tbody>
</table>

- Raw Material synergies includes utilization of Usha Martin’s Iron Ore mines and Tata Steel’s captive ore
- Other Operating synergies includes saving in freight
- Selling, General & Administrative synergies includes saving in corporate overheads

Zero Date: acquisition completion date; 2. Bhushan Energy Limited
Bhushan Steel is a value-accretive acquisition which delivers several benefits to Tata Steel:

- Additional capacity to retain market share in a growing market
- Higher downstream integration and value addition with a complementary product mix
- Closer access to key markets in North and West
- Monetization of mining assets
- Optionality to scale up through brownfield expansion
UML's steel business is the first step in building an attractive longs portfolio

<table>
<thead>
<tr>
<th>Strategic Rationale</th>
<th>Future Plans</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Retain long products market share in wire rods</td>
<td>▪ Long products business model requires leaner and flexible cost structure</td>
</tr>
<tr>
<td>▪ Entry into special steel market</td>
<td>▪ Comparatively smaller furnace and mill configuration required to enable large number of customized products</td>
</tr>
<tr>
<td>▪ Enhance product basket for Automotive customers</td>
<td>▪ Allows for modular expansion</td>
</tr>
<tr>
<td>▪ Leverage customer base, better customer service with wide offering</td>
<td>▪ Potential to expand into steel recycling &amp; eventually to EAF band steelmaking</td>
</tr>
<tr>
<td>▪ Additional land in Barajamda can be used for setting up Beneficiation plant</td>
<td>▪ Selective acquisitions, distributed and green manufacturing closer to markets</td>
</tr>
</tbody>
</table>

Tata Sponge: a preferred vehicle

Future Plans

▪ Potential to expand into steel recycling & eventually to EAF band steelmaking
▪ Selective acquisitions, distributed and green manufacturing closer to markets
▪ Organized processing of steel scrap as raw material for long products
▪ Downstream linkage to growth in wires business

UML – Usha Martin India Limited; EAF: Electric Arc Furnace
Multiple capital efficient and value accretive options to consider in phased manner:

- West Bokaro expansion
- Iron ore portfolio expansion
- Kalinganagar expansion
- Jamshedpur expansion
- Port & logistic infrastructure
- Bolt on acquisitions in or outside the Insolvency and Bankruptcy Code (IBC)
- Expansion at Bhushan Steel
- New Material Business

*New ventures & Acquisitions in FY19 includes acquisition cost of Bhushan Steel and Usha Martin’s steel business
Capital raised from divestments will be used to deleverage

- Total capital raised through divestments in last 7 years was Rs. 19,400 crores

- Other announced portfolio restructuring being pursued:
  - tk-TSE JV
  - Sedibeng
  - Cogent
  - TRL Krosaki
  - South East Asia cluster

Cash flow from divestments (Rs. Crores)

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY12</td>
<td>5,076</td>
</tr>
<tr>
<td>FY13</td>
<td>1,782</td>
</tr>
<tr>
<td>FY14</td>
<td>217</td>
</tr>
<tr>
<td>FY15</td>
<td>3,223</td>
</tr>
<tr>
<td>FY16</td>
<td>3,611</td>
</tr>
<tr>
<td>FY17</td>
<td>793</td>
</tr>
<tr>
<td>FY18</td>
<td>4,698</td>
</tr>
<tr>
<td>FY12-18</td>
<td>19,400</td>
</tr>
</tbody>
</table>

*tk: thyssenkrupp; TSE: Tata Steel Europe; JV: Joint Venture*
Balance Sheet redesigned to support ROIC improvement

- Leverage profile has flexible terms, diversified funding sources and well spread maturities

- Deleveraging through superior cash flows and portfolio restructuring

- With proposed portfolio restructuring & high growth investment, expect 300 bps increase in ROIC² in future

**Maturity Profile (FY18)¹ (mn US$)**

- `<2 years`:
  - FY14: 2,729
  - FY15: 5,698
  - FY16: 4,825

**Net Debt / EBITDA**

- FY15: 5.3x
- FY16: 8.9x
- FY17: 4.3x
- FY18: 3.2x
- 1H FY19: 3.4x

**Tata Steel consolidated & standalone Pre-tax ROIC² (%)**

- FY14: 12%
- FY15: 8%
- FY16: 3%
- FY17: 10%
- FY18: 13%
- Avg. FY14 to 18: 10%

*FX: USD 1 = INR 71.0  GBP1 = 91; (1) Consolidated figures - includes future finance charges and capitalization of transaction costs; the maturity profile is as per company internal analysis and not as per IndAS; (2) ROIC (Return on Invested Capital): Adjusted Operating profit before tax/Average Invested Capital (Excluding Capital Work-in-Progress);*
In conclusion, Tata Steel is well poised to create sustainable value

Strong foundation from ‘Best in class’ assets and capabilities:
- Jamshedpur, Kalinganagar and Angul are strong & ‘best in class’ asset profiles
- Globally competitive cost position
- Strong leadership team and talent strength
- Integral part of the Tata Group

Future opportunities for value creation:
- Best position to leverage India growth story
- Synergies from the European JV
- Expansion of Tata Steel Kalinganagar
- Pursue bolt on acquisition opportunities in downstream and long products
- Redesigned Balance Sheet

- Resilient business profile to manage downside risks
- Sustain value creation across the cycle
Tata Steel – Investor Day 2018
Tata Steel India: Marketing and Sales
Peeyush Gupta, VP – Marketing & Sales (India & SEA)
Agenda

A. Roadmap 2025
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Demonstrated track record of superior growth as compared to the market

- Tata Steel Standalone sales (mn tons) [FY08-FY18 CAGR: 9.8%]
- Market demand (mn tons) [FY08-FY18 CAGR: 5.7%]

Collaborative Working

Preferred Supplier

Differentiated & Innovative Partner

Source: Joint Plant Committee, Tata Steel; Market demand is apparent Steel Use; Chart is subject to scale
Tata Steel is present in ~85% of domestic carbon steel market and has a unique way of segmenting the market.

**Sector-wise India steel demand**
- Construction: 62%
- Capital Goods: 15%
- Automotive: 9%
- General Engg.: 6%
- Consumer Durables: 5%
- Railways: 3%

**Tata Steel domestic sales (Sector wise)**
- Construction: 49%
- Capital Goods: 13%
- Automotive: 28%
- General Engg.: 7%
- Consumer Durables: 2%
- Railways: 1%

**Product-wise India steel demand (mn tons)**
- Flat Carbon: 42%
- Long Carbon: 48%
- Alloy: 10%

**Tata Steel domestic sales (Vertical wise, mn tons)**
- Branded Products & Retail: 42%
- B2B - Automotive: 19%
- B2B - Industrial Products & Projects: 16%
- B2C: 19%
- B2ECA: 19%

Source: World Steel Association, JPC and Tata Steel; Note: All data for FY18; HR: Hot Rolled; CR: Cold Rolled; Others in Flat Carbon: includes Tinplate and Electrical Steel; B2B: Business to Business; B2C: Business to Consumer; B2ECA: Business to Emerging Corporate Accounts.
Automotive & Special products: Market leadership driven by focus on technology and strong customer relationship

**Growth enabled by:**
- Faster localization
- Extensive network of steel processing centers
- 4 Hot Strip Mills, 3 Cold Roll Mills & TSK Phase 2 in future

**Softer leadership through:**
- Customized relationship platforms like ‘Customer Service Teams’, ‘Value Analysis Value Engineering’ and Driving Steel
- Advanced technical support system like ‘Product Application & Research Centre’, ‘Early Vendor Involvement’ and Technology Day

**Gearing up for transformation:**
- Light-weighting: Shift to hi-strength
- Transition to BS VI: poly-coat in 2W fuel tank

**Automotive vertical sales**

<table>
<thead>
<tr>
<th>Financial Year</th>
<th>Automotive Sales (KT)</th>
<th>Hi-end sales (KT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY02</td>
<td>185</td>
<td>0</td>
</tr>
<tr>
<td>FY10</td>
<td>890</td>
<td>87</td>
</tr>
<tr>
<td>FY14</td>
<td>1183</td>
<td>226</td>
</tr>
<tr>
<td>FY18</td>
<td>1944</td>
<td>407</td>
</tr>
<tr>
<td>H1 FY19</td>
<td>1139</td>
<td>208</td>
</tr>
</tbody>
</table>

**OEMs Served (Nos.)**

<table>
<thead>
<tr>
<th>Financial Year</th>
<th>Automotive Sales (KT)</th>
<th>Hi-end sales (KT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY02</td>
<td>15</td>
<td>0</td>
</tr>
<tr>
<td>FY10</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>FY14</td>
<td>29</td>
<td>29</td>
</tr>
<tr>
<td>FY18</td>
<td>36</td>
<td>36</td>
</tr>
<tr>
<td>H1 FY19</td>
<td>37</td>
<td>37</td>
</tr>
</tbody>
</table>

- Chosen partners in new launches
- Commercialization of hi-tensile grades

**FP Market Share (%)**

<table>
<thead>
<tr>
<th>Financial Year</th>
<th>Automotive Sales (KT)</th>
<th>Hi-end sales (KT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY02</td>
<td>20%</td>
<td>41%</td>
</tr>
<tr>
<td>FY10</td>
<td>42%</td>
<td>42%</td>
</tr>
<tr>
<td>FY14</td>
<td>43%</td>
<td>43%</td>
</tr>
</tbody>
</table>

KT: ‘000 Ton; Nos.: Numbers; TSK: Tata Steel Kalinganagar; OEMs: Original Equipment Manufacturers; BS VI: Bharat Stage VI; 2W: 2 Wheelers
Industrial Products, Project & Exports: Enriching product mix and shaping industry practices

Growth enabled by:
✓ Investments in Thin Slab Casting and Rolling Facility and Tata Steel Kalinganagar

Maintaining leadership through:
✓ Focus on value added products and Engineering segments
✓ Partnership with select customers
✓ Supply chain visibility through COMP@SS

Gearing up for transformation:
✓ ‘Ready to use’ steel (eg. CAB, Sm@rtFAB)
✓ Pioneering services (e.g. wired2win, CST)
✓ Promoting steel intensive construction

Leadership position in chosen segments (LPG, MCHC, Railways, Wire rods)
Exports play in select markets (Neighboring countries, SEA, ME)

KT: ‘000 Ton; COMP@SS: Digital platform for supply chain visibility; CAB: Cut And Band; Sm@rtFAB: Branded wire mesh; wired2win: an engagement forum; CST: Customer Services Teams; LPG: Liquid petroleum gas (cylinders); MCHC: Medium carbon high carbon; SEA: South East Asia; ME: Middle East
Branded Products & Retail: Using long term partnerships to deliver superior consumer experience

Delivering delight to underserved market:
✓ Building customer capability (Qualithon, Skills4India)
✓ Digitally enabled Finance solution “URJA”

Enhancing premium play through:
✓ Deep dive in >40 micro segments
✓ Largest number of service centers & unmatched country-wide network

Unique solutions to product usage and real time customer support:
✓ Category conversion (Thatch to Steel)
✓ Customer Service Engineers
✓ Aashiyana: Early engagement & e-commerce platform with knowledge sharing

KT: ‘000 Ton; GTO: Gross Turnover

Branded Products & Retail Sales

- Meteoric increase in B2C play
- Deeper engagement with Emerging Corporate Accounts (Small & Medium Enterprises)
Services & Solutions: New initiative to capture a value multiplier and insulate from revenue cyclicality

Growth enabled by:
✓ Leveraging Tata Steel ecosystem
✓ Collaborations with industry experts & manufacturing partners

Building new business through:
✓ Enhancing consumer convenience
✓ Newer avenues of steel consumption
✓ Solutions beyond steel through alternate material

Shaping the market through:
✓ Pioneering brands catering to latent needs
✓ Post manufacturing differentiation

Service and Solutions business sales

<table>
<thead>
<tr>
<th></th>
<th>FY16</th>
<th>FY17</th>
<th>FY18</th>
<th>H1 FY19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nest-In Sales (Rs. Crs.)</td>
<td>12</td>
<td>28</td>
<td>45</td>
<td>37</td>
</tr>
<tr>
<td>Pravesh Sales (Rs. Crs.)</td>
<td>2</td>
<td>13</td>
<td>75</td>
<td>65</td>
</tr>
</tbody>
</table>

S&S Portfolio

- Pioneering brands
- Post manufacturing differentiation
- Leveraging Tata Steel ecosystem
- Collaborations with industry experts & manufacturing partners
- Enhancing consumer convenience
- Newer avenues of steel consumption
- Solutions beyond steel through alternate material

Competitor logos:

- PRAVISH
- TISCO SUPERLINKS
- TISCO
- TATA CSC
- TATA CSC ULTIMATE

Shaped Blanks
Multiple production hubs, world-class stockyards and a strong pan India distribution network is a unique competitive advantage

**BSL Khopoli + TSL Tarapore**
- Modern API & Large dia. Pipes for Hi end
- Competitive exports
- Optimizing customer & product mix

- **Theory Of Constraints** based supply chain
- **Channel Strength** (93 distributors, 1,500 distributors’ feet, ~12,000 dealers)
- **Managed** by 230+ Customer Account Manager# and 50+ Application Engineers

**BSL Sahibabad**
- Niche downstream products for TSL brands
- High service levels due to proximity

- **TSJ + TSK + BSL Angul**
  - Dispatch efficiency (Special Freight Train Operator, Polyurethane Saddles)
  - Cross utilization of Mills
  - Freight optimization

---

TSL: Tata Steel; TSJ: Tata Steel Jamshedpur; TSK: Tata Steel Kalinganagar; BSL: Bhushan Steel Ltd; API: American Petroleum Institute; *Excluding BSL; # Excluding Profit Centers
### Bhushan Steel helps in consolidating our market leadership

| **Access to New markets/segments** | ▪ Complementary products through Bhushan Steel:  
  o Wider (>1540mm) & Thinner (<0.5 mm) Cold Rolled, Galvanized, Colour Coated  
  o Hardened & Tempered products  
  o API Tubes and Large dia. pipes  
  ▪ Higher reach through Tata Steel distribution channel |
|-----------------------------------|---------------------------------------------------------------|
| **Greater Synergies at Market Place** | ▪ Largest supplier of Skin Panels  
 ▪ Enhance presence in Colour Coated & Precision Tubes  
 ▪ Leverage Emerging Corporate Accounts (SMEs) brands for greater play  
 ▪ Joint promotion of products through customer & influencer |
| **Integrated planning & logistics** | ▪ Stockyard network optimization  
 ▪ Joint Coastal Movement  
 ▪ Special Freight Train Operator & slab sales |

API: American Petroleum Institute; SMEs: Small & Medium Enterprises
Reorganization of Bhushan Steel’s Marketing & Sales in customer facing segments

Bhushan Steel helps in consolidating our market leadership

Common Processes:
- Annual business planning
- Channel management
- Monthly sales planning
- Credit policy

Tata Steel* and Bhushan Steel: FY18

<table>
<thead>
<tr>
<th>Segment</th>
<th>Tata Steel*</th>
<th>Bhushan Steel</th>
<th>Tata Steel + Bhushan Steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSL (OEM)</td>
<td>1.15</td>
<td>1.33</td>
<td>1.48</td>
</tr>
<tr>
<td>BSL (Exports)</td>
<td>3.80</td>
<td>1.55</td>
<td>4.35</td>
</tr>
<tr>
<td>TSL (Downstream)#</td>
<td>4.24</td>
<td>0.91</td>
<td>5.15</td>
</tr>
<tr>
<td>TSL (IPP)</td>
<td>1.94</td>
<td>0.15</td>
<td>2.09</td>
</tr>
<tr>
<td>Total</td>
<td>15.94</td>
<td></td>
<td>18.87</td>
</tr>
</tbody>
</table>

Tata Steel* and Bhushan Steel: H1 FY19 (Post Integration)

<table>
<thead>
<tr>
<th>Segment</th>
<th>Tata Steel</th>
<th>Bhushan Steel</th>
<th>Tata Steel + Bhushan Steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Downstream#</td>
<td>0.46</td>
<td>0.37</td>
<td>0.83</td>
</tr>
<tr>
<td>BPRS/ Distribution</td>
<td>1.94</td>
<td>0.65</td>
<td>2.59</td>
</tr>
<tr>
<td>IPP</td>
<td>2.22</td>
<td>0.70</td>
<td>2.92</td>
</tr>
<tr>
<td>Auto</td>
<td>1.14</td>
<td>0.65</td>
<td>1.79</td>
</tr>
<tr>
<td>Exports</td>
<td>2.01</td>
<td>0.15</td>
<td>2.16</td>
</tr>
<tr>
<td>Total</td>
<td>6.14</td>
<td></td>
<td>8.15</td>
</tr>
</tbody>
</table>

Source: Tata Steel; All figures in mn tons; * Tata Steel Standalone; # includes transfer to tubes & wires divisions
India steel demand to remain strong in medium term; utilization to improve with resolution of stressed assets

Outlook: Demand-supply (mn tons) and capacity utilization (%)

Opportunities
1) Service & Solutions: Customers are ready to pay for convenience
2) Rural market: New & sustainable steel products
3) Growth in Long Products: Greener and Efficient construction

Challenges
1) Intensifying protectionism globally
2) Poor Infrastructure and logistics
3) Entry of new competition
Tata Steel – Investor Day 2018
Tata Steel Kalinganagar: a significant milestone
Rajiv Kumar – Vice President, Tata Steel Kalinganagar Operations
Agenda

A. Roadmap 2025

B. Focusing capital for long term value

C. Tata Steel India: Marketing and Sales

D. Tata Steel Kalinganagar: A significant milestone

E. Bhushan Steel: The first 6 months

F. Our Digital Journey
Tata Steel Kalinganagar Phase I
Tata Steel Kalinganagar Phase I expansion has been a significant milestone in our journey

### 3 MTPA Greenfield expansion
- De-risked operations away from single location in India
- Provides optionality of cost effective brownfield expansion

### Lighter and high-tensile strength steel
- Enabling expansion of customer universe to sectors such as Oil and Gas, Lifting and Excavation, Pre-engineered Buildings and Construction & Projects

### Key indicators

<table>
<thead>
<tr>
<th>Thickness</th>
<th>Capabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness</td>
<td>Max 25mm</td>
</tr>
<tr>
<td>Tolerance: +/- 36 to 48 micron max for 1.6 to 6.0 mm</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Width</th>
<th>Capabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range: 800 to 2050mm</td>
<td></td>
</tr>
<tr>
<td>Tolerance: -0/+10 mm up to 1400 mm width and -0/+12 mm &gt; 1400 mm width</td>
<td></td>
</tr>
<tr>
<td>Width / Thickness ratio: ~30-50%</td>
<td></td>
</tr>
</tbody>
</table>

| Tensile strength | Upto 1200 Mpa |
| Special coil weight | Upto 22 Kg/mm |

### Optimal design
- Higher productivity driven by automation
- Cost competitiveness with superior operating KPIs
- Higher efficiency and sustainability
- Logistics advantage with proximity to ports and captive Iron ore mines
Focus is now on improving the revenue stream and cost competitiveness

- TSK phase – I has now fully ramped

- Commercializing 188 number of grades while ramping up

- Cost competitiveness will improve over several quarters as focus shifts from ramp-up to operational KPIs
<table>
<thead>
<tr>
<th>Sector</th>
<th>Key applications</th>
<th>Key commercialized grades</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto</td>
<td>Wheel grade</td>
<td>SPFH590 (High HER), SPFH540, SPFH440, KWL RIM &amp; DISC, DP600, YST38, WIR019, Gr A CF (<em>strength 250-700MPa</em>)</td>
</tr>
<tr>
<td></td>
<td>Structural Long member &amp; cross member</td>
<td>HS800, BSK46, E46, E34, E38, DP780, BIL55, Tisten55, Tisten60, 80Ksi (<em>strength 440 – 900</em>)</td>
</tr>
<tr>
<td></td>
<td>Internal panel</td>
<td>IF^1 CRCA, IF GA, IF ZS(GI)</td>
</tr>
<tr>
<td>Lifting &amp; Excavation</td>
<td>Structural</td>
<td>S275J2, S355J2, S460MC, S550MC, S700MC, E410, HS620 (<em>strength 440-800MPa, thickness 5-25mm</em>)</td>
</tr>
<tr>
<td></td>
<td>Structural</td>
<td>ASTM Gr50 Type2 (<em>thickness 5-25mm</em>)</td>
</tr>
<tr>
<td></td>
<td>High strength</td>
<td>SG295, HS345, P245, P265</td>
</tr>
<tr>
<td>LPG</td>
<td>Oil &amp; Gas</td>
<td>API X42, API X46, API X52, API X60</td>
</tr>
<tr>
<td>API</td>
<td>Oil &amp; Gas</td>
<td>API X42, API X46, API X52, API X60</td>
</tr>
<tr>
<td>High Carbon</td>
<td>Chain link, Seat belt buckle, Cutting tool, High end tube, Suspension of 2 wheeler</td>
<td>C80, C75, C60, C55, C40, C45, SAE1541, C30, SAE1026</td>
</tr>
<tr>
<td>Tube grades</td>
<td>High end tube for auto (propeller shaft)</td>
<td>SAE1010/18/20, St52.3, K3 special,</td>
</tr>
</tbody>
</table>

1. Interstitial free
Tata Steel Kalinganagar – Phase II expansion is underway; adding downstream capability

- 5 MTPA brownfield expansion including 2.2 MTPA cold rolling complex, raw materials and related facilities
- Total Capex: Rs. 23,500 crores
- Timeline: 48 months from zero date

<table>
<thead>
<tr>
<th>CRM complex capability</th>
<th>Width (in mm)</th>
<th>Thickness (in mm)</th>
<th>Capacity (in MTPA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pickling Line and Tandem Cold rolling Mill</td>
<td>1,870</td>
<td>0.3 - 2.3</td>
<td>2.2</td>
</tr>
<tr>
<td>Continuous Annealing Line</td>
<td>1,870</td>
<td>0.3 - 2.3</td>
<td>0.9</td>
</tr>
<tr>
<td>Continuous Galvanizing Line (non-auto)</td>
<td>1,560</td>
<td>0.3 - 2.3</td>
<td>0.45</td>
</tr>
<tr>
<td>Continuous Galvanizing Line (auto)</td>
<td>1,870</td>
<td>0.3 - 2.3</td>
<td>0.55</td>
</tr>
</tbody>
</table>
Tata Steel Kalinganagar Phase II expansion will create significant value

- Capex back ended with less than 25% to be spent in first 2 years
- Productivity to improve significantly
- Energy cost to reduce significantly with better balancing and optimum utilization all facilities
- Cold roll mill complex prioritized to improve product mix and optimize project cash flows

**Tentative capex spending (%)**

<table>
<thead>
<tr>
<th>Year 1 &amp; 2</th>
<th>Year 3 &amp; 4</th>
<th>Year 5 &amp; beyond</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>42</td>
<td>34</td>
</tr>
</tbody>
</table>

**Productivity (TCS/FTE/Year)**

<table>
<thead>
<tr>
<th>FY18 TSJ</th>
<th>FY18 TSK</th>
<th>TSK Phase I</th>
<th>TSK Post Phase II</th>
</tr>
</thead>
<tbody>
<tr>
<td>738</td>
<td>918</td>
<td>986</td>
<td>1,951</td>
</tr>
</tbody>
</table>

**Phase II to improve product mix with more high end products**

- Auto
- BPRS
- IPP
- Downstream
- Exports

1. TCS = Tons of Crude Steel; FTE = Full Time Equivalent Employees; Productivity for TSK post phase II is estimated based on ~4,100 number of employees; 1. Internal estimates based on Tata Steel Kalinganagar deliveries in FY25
## Tata Steel Kalinganagar – Phase II: Key features of the cold rolling mill complex

<table>
<thead>
<tr>
<th>Pickling Line and Tandem Cold rolling Mill</th>
<th>Continuous Annealing Line</th>
<th>Continuous Galvanizing Line</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ High Quality Steel (IF(^1), High Strength Steel, DP-1180 MPa, TRIP(^2))</td>
<td>▪ Furnace capacity 240 T/Hr, Cooling Capacity &gt;100° Celsius/Second</td>
<td>▪ GA furnace with close loop control and high capacity (5,200 KW)</td>
</tr>
<tr>
<td>▪ Strip Flatness (6 ~ 10 I Unit)</td>
<td>▪ Low NOx &amp; SOx Emission (Special design of burners with W Radiant tubes)</td>
<td>▪ Auto zinc charging with bath Al and level control</td>
</tr>
<tr>
<td>▪ IbA Analyser- data Acquisition, data analytics</td>
<td>▪ Furnace rolls - thermal crown control for, anti-pick up property (thermal spray coated), automatic coil de-straper &amp; disposal, automatic fish tail detector</td>
<td>▪ Auto Surface Inspection</td>
</tr>
<tr>
<td>▪ Labour Saving – de-straper, auto surface inspection</td>
<td>▪ Over-ageing furnace (suitable for DP 1180 MPa Grades)</td>
<td>▪ 1200 T Dual dia 4 Hi SPM with inline work roll change</td>
</tr>
<tr>
<td>▪ Auto roll changing</td>
<td></td>
<td>▪ Robotics dross removal</td>
</tr>
</tbody>
</table>

---

1. Interstitial free; 2: Transformation Induced Plasticity
Tata Steel – Investor Day 2018
Bhushan Steel: The first 6 months
Rajeev Singhal – Managing Director, Bhushan Steel
Agenda

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F. Our Digital Journey
Bhushan Steel is an attractive asset

**High Quality Asset**
- One of the widest cold rolling mill of 1700 mm in India
- Superior Plant Layout
- Leading process technology partners from Europe/Japan/USA
- Captive railway siding

**Locational advantage**
- Proximity to markets, raw materials and ports
- Close to Tata Steel plants and mines
- In-house processing centres for high end value-added products

**Complementary and rich product mix**
- Complimentary product portfolio (>1540 mm wider cold rolled products, <0.5mm thinner products, colour coated products, hardened & tempered products, API Tubes, Galvalume)
- Rich exposure in downstream business (more than 45% of total capacity)
  - First Indian steel plant to supply skin panel to auto makers
  - Market leader in colour coated supplies to appliance segment
  - Large product range of Tubes & Pipes; world class Large dia. pipes manufacturing

**Optionality**
- Provides optionality to scale up through brownfield expansion in future
Value-added product manufacturing capability across 3 locations

All capacities are in mn tons per annum, 1. Total cold rolling capacity
We are working on addressing multiple challenges

<table>
<thead>
<tr>
<th>Infrastructure &amp; Operations</th>
<th>People &amp; Culture</th>
<th>External Stakeholders</th>
</tr>
</thead>
</table>
| ▪ Improving safety standards through enhanced awareness, processes & equipment  
  ▪ Elimination of hazards through improved use of technology  
  ▪ Strengthening asset health with planned shutdowns & equipment refurbishment across value chain  
  ▪ Addressing design gaps in utilities | ▪ Strengthening of systems & processes  
  ▪ Capability building to achieve benchmark performances  
  ▪ Increasing people engagement through robust Human Resource processes  
  ▪ Enhancing automation | ▪ Implementing impact based CSR through engagement with the society  
  ▪ Improving the environmental performance  
  ▪ Be a benchmark in corporate governance |

CSR: Corporate Social Responsibility
Integration is underway and several areas of synergy have been identified.

<table>
<thead>
<tr>
<th>Tier-1: Excellence</th>
<th>60+ initiatives being pursued with a potential of &gt; Rs.1,500 crores per year at Tata Steel consolidated level over 2-3 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Stabilize current performance</td>
<td>▪ Operational excellence projects &amp; safety processes based on TSL best practices</td>
</tr>
<tr>
<td>▪ Raise to best demonstrated performance</td>
<td>▪ Leverage technical knowhow</td>
</tr>
<tr>
<td>▪ Realise synergies</td>
<td>▪ Common sales &amp; operations planning</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tier-2: Elevate</th>
<th>Marketing &amp; Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Achieve benchmark performance in all areas</td>
<td>▪ Access to Tata Steel distribution channel; Joint product promotion and customer interface</td>
</tr>
<tr>
<td>▪ Achieve rated capacity</td>
<td>▪ Migration to common brands</td>
</tr>
<tr>
<td>▪ Generate strong cash flow</td>
<td>▪ Common credit policies</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tier-3: Expand Capacity</th>
<th>Procurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Initiate strategic capital investments</td>
<td>▪ Benefit of scale with combined procurement of key raw materials</td>
</tr>
<tr>
<td>▪ Consistently replicate industry best performance</td>
<td>▪ Procurement process standardization</td>
</tr>
<tr>
<td>▪ Enhance sustainable returns for the stakeholders</td>
<td></td>
</tr>
</tbody>
</table>

Operations

<table>
<thead>
<tr>
<th>Logistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Stockyard network optimization</td>
</tr>
<tr>
<td>▪ Clubbing of port operations</td>
</tr>
<tr>
<td>▪ Combine sea freight movements of finished goods</td>
</tr>
</tbody>
</table>
Our journey of improvement has begun

Key enablers to achieve 5 MTPA by FY20

- Debottleneck & decouple operations
- Embed planned predictive maintenance framework
- Capability building & resource augmentation
- Restart idle assets
- Excellence in planning, procurement, financing and IT
- Capex for superior asset performance

Structured operations excellence and productivity improvement efforts

- Improve safety performance
- Maximize throughput
- Optimize resource consumption
- Drive energy efficiency
- Minimize waste disposal
- Optimize cost and working capital
- Drive innovation and enrich product mix
We are committed to build on the progress made in these months

**Hot Rolled Sheets/ Coils**
- Capacity Utilisation %
  - FY17: 58%
  - FY18: 66%
  - H1FY19: 71%

**Cold Rolled Sheets/ Coils**
- Capacity Utilisation %
  - FY17: 79%
  - FY18: 76%
  - H1FY19: 86%

**Precision Tubes**
- Capacity Utilisation %
  - FY17: 75%
  - FY18: 74%
  - H1FY19: 86%

**Coke rate (kg/tcs)**
- FY17: 419
- FY18: 416
- H1FY19: 399

**PCI rate (kg/tcs)**
- FY17: 116
- FY18: 119
- H1FY19: 134

**Power Consumption - HSM (KwH/MT)**
- FY17: 100
- FY18: 100
- H1FY19: 93
Tata Steel – Investor Day 2018
Our Digital Journey
Jayanta Banerjee - Chief Information Officer
A. Roadmap 2025

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F. Our Digital Journey
IT & Digital vision is aligned to organizational long term objectives

Steel Industry Leader in leveraging Digital by 2025

Vision
- Agility
  - People
  - Process
  - Infrastructure

Mission
- Intelligence
  - Systems
  - Connectivity
  - Decision Support

- Digitalization
  - Experience
  - Technology
  - Curiosity

Goal
- Financial Alacrity
- Cyber Resilience
- Smart Operations
- EBITDA Enhancement

Governance
- Leveraging existing Shikhar Governance framework
What the best in class Business 4.0 might look like when enabled by Technology

- **Intelligent Process Automation**
- **Event driven Risk Mitigation**
- **Insights driven Business decisions**
- **Scalable & Fungible Resources**
- **Outcomes based Commerce**

**Business 4.0**

- **Sensorization, Digital Twin**
- **Cloud first, Mobile First**
- **EDM, Cybersecurity**
- **Analytics & AI**
- **OCR, RPA, Chatbots**
- **Augmented / Virtual Reality**

AI: Artificial Intelligence; OCR: Optical Character Recognition; RPA: Robotic Process Automation; EDM: Enterprise Data Management
IT & Digital strategy design principles for enhanced stakeholder experience

CUSTOMER | EMPLOYEE | MANAGEMENT | SUPPLIER | COMMUNITY | SHAREHOLDER
---|---|---|---|---|---
**INSIGHTS DRIVEN** | **DATA DRIVEN** | **INSTINCTS DRIVEN**

- **Visualization**
- **Artificial/Cognitive Intelligence**
- **Data Office**
- **Application, ERP, MES**
- **IIoT (Connect & Collect)**
- **IIoT (Compute & Create), Analytics & Insights**

**Stakeholder Experience, Safety**
- Autonomous Processes & Foresights
- Near real time Insights at the point of decision making
- Single version of Truth, near real time
- Integrated Business Process Enablement
- Sensorized & Connected Operations
- IT Infra enablement to drive Agility & Flexibility in a secured manner

**Notes:**
- IIoT: Industrial Internet of Things; MES: Manufacturing Execution System; ERP: Enterprise Resource Planning.
Components put in place for rapid scale-up of Business Transformation

- Building in-house Data Science capability
  - ~ 400 employees trained on Analytics, Data Engg, Agile

- Squad based approach, using Agile principles
- Transformation focus, measured on value created
- Business owned Project Governance

- Integrated Enterprise Data Architecture & Technology Stack as managed services
- Network augmentation
- Cyber-security & compliance

- Best-of-breed Partner Ecosystem being leveraged
- Industry forums & collaborations
### Key Initiatives

- **Maintenance Technology Roadmap**
- **Energy Management**
- **Customer facing Digital Platforms**
- **Integrated Supply Chain**
  - Integrated Logistics (Inbound, Outbound)
- **Procurement 4.0**

### KPIs Impacted

- **Availability, Reliability**
- **Cost**
- **Customer Experience, Cycle Time, Revenue**
- **Cost, On Time in Full**
- **Cost, Cycle Time**

### Desired Outcome

- **Predictive Asset Maintenance, Smart operations**
- **Greener, sustainable operations at reduced cost**
- **Improved customer experience, Enhanced revenue**
- **Lower cost to serve, Smart operations**
- **Agile & responsive procurement process**

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...driving Cost Reduction, Increased Productivity & Agility, Enhanced Stakeholder Experience and Reduced Time-to-Market
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Tel: +91 22 6665 0530
Email: Sandep.agrawal@tatasteel.com