Digital Transformation Initiatives in Mining & Metals – the Tata Steel approach

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Tata Steel, India
The Digital Vortex is gaining speed - disruption to become new constant

**Age of Platforms:**
Android / iOS, FB / Whatapp, Uber / Airnb, Netflix

**Black Swan events:**
Brexit, Trump win, Demonetization, UP elections

**A few Incumbents hit back:**
GE, CISCO, MS, HDFC, Hero, Apple, TSL?

**Technological Progress (SMAC)**
Sci-Fi tech democratized:
LiFi, Autonomous cars, AI digital assistants, Neuralink

**Behavior Changes**
Hyper-competition:
Price transparency, Ubiquitous reach, WoM, Social Search

**New Business Models**
Newer ways of doing things:
Circular economy, Crowd-economy

**And bigger Risks:**
Cyber-security, Unemployment Armageddon, Skill attrition, Digital detox, Post-truth

**Winner takes it all!**

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**CURIOSITY**

**COLLABORATION**

**CURATION**
The Journey thus far and the North Star

Why Digital?

- **Digital** – testing its relevance
- **Leadership direction set** – “Simpler, Faster & Smarter TSL”
- **Reverse Mentoring**

Acclimatizing with the Landscape

- **Rubber hits the road** (nearly) – DVAT, DFP formed
- **Scale-up is the theme** – digital a key enabler
- A few flowers bloomed – Tubes, NBM, LD2, **Innovex**, LoraWan
- **Eye opener programs**
  - DEEP
  - Visualization Faire
  - Drone Fest, IoT visits
  - Employee Union Conclave

Analytics led Transformation

- **Burning the rubber** – deliver Rs 500cr EBIDTA impact thru digital, establish value pipeline of Rs 2500cr
- **Need of the hour** – Agility, Predictability, Scalability
- **Analytics, Analytics, Analytics** – build capability, deliver value
- **Deliver Rs 2500cr EBIDTA impact** through digital
- **Rapid prototyping** capability for scaling up 80% of pilot solutions
Glimpses of Digital @TSL

Next-gen Mine Planning

Real-time Rake Tracking

Predictive Asset Maintenance

Real-time video analytics

1st LoraWan enabled city - JSR

In-plant Uberization
# TSL’s Customer focus - Sensing & Shaping Markets

## Sensing & Shaping Markets

<table>
<thead>
<tr>
<th>Transformational Themes</th>
<th>Omni-Channel Presence &amp; Customer Insights</th>
<th>Digitised Internal Processes</th>
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<tbody>
<tr>
<td>Initiatives</td>
<td>Customer insights from digital sources</td>
<td>Targeted advertising</td>
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<td></td>
<td>Thought leadership platform</td>
<td>campaigns for B2C customers</td>
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<td></td>
<td>Collaboration and/or</td>
<td>Digital empowerment</td>
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<tr>
<td></td>
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<td>of distributor sales force</td>
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<td>Sales funnel planning</td>
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<td>for salesforce</td>
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<td>Value chain visualizer</td>
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<td>Mobility solutions</td>
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<td>Pricing decision support</td>
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<td>Increase CRM based functions like</td>
<td>tool</td>
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<td>sales performance dashboard, pricing</td>
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<td></td>
<td>decision support, sales funnel planning,</td>
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<td>complaint management</td>
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## Core Platforms

- **Core Applications** - Real-Time ERP, CRM Back Bone and Business critical applications
- Unified Collaboration, Communication and Content Management
- **Operating Model**
We need to learn from and mitigate against common digital failure patterns seen globally

<table>
<thead>
<tr>
<th>Pattern</th>
<th>Description</th>
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<tbody>
<tr>
<td>“Digital centricity, not customer centricity”</td>
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<tr>
<td>“Thousand points of digital light”</td>
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<tr>
<td>“Treatment of technology as an outcome/solution”</td>
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<tr>
<td>“Over-indexing on short-term gains”</td>
<td></td>
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<tr>
<td>“Lack of clarity on tangible $ impact, becomes a process redesign exercise”</td>
<td></td>
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<tr>
<td>“Focusing on digital alone rather than digital + physical incl. change management”</td>
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</table>
Prioritization Matrix used to identify digital opportunities for TSL across customer segments

Legend
- BPR
- IPP
- Auto
- S&S

Note: Attractiveness determined by degree of business impact based on global / internal analogs and extent of impact on TSL’s business, Ability to extract value determined by TSL’s readiness (tech / capability / org) and ecosystem readiness (Customers / Partners / Regulations / Risk / Gestation period)
Digital Radar can help move towards our Digital vision, along 6 key elements

**DIGITAL DEPARTURE**
A statement of digital progress to date

**DIGITAL VISION**
A clear statement of your company’s digital goals

**STEPPING STONES**
Concrete, successive stages of the digital evolution of customer experience, products & services, operations, operating model, data and analytics and IT backbone, organized in WAVES

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**DIGITAL DESTINATION**
A picture of your sector’s likely future

**ORCHESTRATION**
How you move step by step and adapt along the way

- Omni-channel and seamless customer experience
- Rapid and collaborative product engineering & design
- Digitally enabled supply chain & sales-force
- Market place for Consumer services
- Analytics driven sales excellence
- BaU initiatives such as EDI, CRM, etc
Adoption of Agile is critical to digital, however full transformation may take 2-3 years.

<table>
<thead>
<tr>
<th>MOBILIZE</th>
<th>PILOT</th>
<th>SCALE</th>
<th>EMBED</th>
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<tbody>
<tr>
<td>Create the <strong>conditions for success</strong></td>
<td>Generate convincing wins</td>
<td>Expand the insurgency</td>
<td>Fully embed Agile into the Enterprise</td>
</tr>
<tr>
<td>• No Agile teams in place</td>
<td>• Few Agile teams operating in select areas (~2-4 per pilot)</td>
<td>• Expansion of Agile teams in waves; goal to establish Agile operations in complete BUs or functions</td>
<td>• Ongoing Agile operation in complete BUs or functions with a single backlog</td>
</tr>
<tr>
<td>• Supportive infrastructure (e.g., tech, tools, etc.) beginning to be set up</td>
<td>• Supportive infrastructure partially in place</td>
<td>• Supportive infrastructure fully in place</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Removal of sig. impediments</td>
<td></td>
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</tbody>
</table>

Agile implementation happens in phases but important to continually move forward to embed in enterprise

<table>
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<tr>
<th>1-2 MONTHS</th>
<th>4-6 MONTHS</th>
<th>12+ MONTHS</th>
<th>12+ MONTHS</th>
</tr>
</thead>
</table>

Note: Different BUs/functions can be in separate phases of the transformation at a single point in time.
Moving from VASP 1.0 to 2.0 to VASP 3.0…

Value Added Steel Peddler (pre 2002) – 1.0

- Hold Inventory/ Provide credit
- No PAG support
- Free for all sales
- Price per Market & Opportunity
- Cutting in “Stack Facilities”
- Limited sales-force

Value Added Service Provider (2002 onwards) - 2.0

- Reach, OTIF
- Dedicated sales-force
- Product Application Support
- Pricing policy
- Customer segmentation
- One-to-One relationship
- Emerging digital infra – eCafez, Tally, PayFe

Value Added Solutions Provider (future) – 3.0

- Dynamic service provisioning
- Digitally enabled supply chain operations to maximize visibility and OTIF
- Online platform for early inspiration
- Omni channel
- Localized innovation at scale
- Start-up collaborations
- Dynamic micro-segmentation
- Dynamic pricing optimization
- Shared assets / Marketplace for excess capacity

Naive  Pro-Active  Prescriptive
Key messages

• Digital Vortex is gaining speed – disruption to become the new constant

• It is critical for us to play a part in shaping and sensing the market

• Need to watch-out for and mitigate against common digital failure patterns seen across the world

• TSL has embarked on a digital journey – however, a long way to go…

• Value focus across the Value Chain
Thank You
Tata Steel’s Digital Script™

Increasing _information intensity_ and _connectedness_ of _customer and business resources_. Any resource can become digital through the application of technology.

<table>
<thead>
<tr>
<th>S</th>
<th>SCALABLE</th>
<th>Platform Thinking (0 marginal cost of expansion, R=G)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>CONNECTED</td>
<td>M2P, P2P and P2M</td>
</tr>
<tr>
<td>R</td>
<td>RAPID</td>
<td>Agile Approach</td>
</tr>
<tr>
<td>I</td>
<td>INTELLIGENT</td>
<td>Descriptive -&gt; Predictive -&gt; Prescriptive</td>
</tr>
<tr>
<td>P</td>
<td>PERSONALISED</td>
<td>Individual as a brand (unique customer, N=1)</td>
</tr>
<tr>
<td>T</td>
<td>TECHNOLOGICAL</td>
<td>IT-OT Integration using Digital Technology</td>
</tr>
</tbody>
</table>
Leverage the Ecosystem: Govt. of India – “the Disruptor-in-Chief”

- **IndiaStack** is a set of APIs that allows governments, businesses, startups and developers to utilize an unique digital Infrastructure.

- **Existing APIs** – Aadhaar Authentication, Aadhaar e-KYC, eSign, Digital Locker, Unified Payment Interface (UPI)

- **APIs in the pipeline** – Digital User Consent, GSTN - The Goods and Services Tax Network, BBPS - The Bharat Bill Payment System, ETC - Electronic Toll Collection (known under the brand FASTag)

- **Building an ecosystem minus the trappings of a system**
  - The Startup India Action Plan hopes to accelerate the startup movement through
    - Simplification and Handholding
    - Funding Support and Incentives
    - Industry-Academia Partnership and Incubation

- **What does it mean for us?**
  - e-KYC – know your Retail Customers
  - Hassle-free, traceable & instant payments – AEPS, UPI
  - Sandboxes for agile experimentation – digio, e-mudhra, on-grid

- **What does it mean for us?**
  - Innovation at scale backed up by the GoI
  - Collaboration for rapid product developments
  - Incubators & startups willing to solve real world problems of the larger enterprises