Overview/Industry perspective

It is very Critical for Manufacturers to assess business to identify threats/weakness and adjust course to improve its performance and achieve success. Some of key challenges listed below.

**Loosing Competitive Edge** : Not able to meet the Market Demand due to constraints on the plant floor.

**Lack of Actionable Insights** : Lack of Digitization, non-unified data assets

**Lack of Process Quality Improvements** : Un-reliable traceability of production bottlenecks

**No Real Time Monitoring** : Lack of real time track and analyze production performance.

**Lack of Unified & Connected Data** : OT & IT systems operating in silos

Infosys Smart Manufacturing solution on “Snowflake Data & AI Cloud” brings efficiencies throughout the manufacturing value chain for various production strategies like make/assemble to order, make to stock and giving real-time visibility across the enterprise landscape. This enables to sense & predict floor fluctuations/disruptions and respond purposefully to maximize production volumes with high precision & quality leveraging consistent integration methods for factory native services (lines, quality, execution systems.)
Key traits of the offering/solutions:

Building Blocks for Data & AI led “Infosys Smart Manufacturing” solution.

<table>
<thead>
<tr>
<th>Digitized Manufacturing Planning &amp; Execution</th>
<th>Customized Realtime Operator Instructions</th>
<th>Dynamic Production Planning</th>
<th>Real Time Material Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creation of manufacturing digital twin</td>
<td>Contextual work instructions based on specific product, skill level of operator</td>
<td>Optimize production schedule dynamically based on market demand, material availability, resource availability and manufacturing constraints</td>
<td>Real time inventory accuracy</td>
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<tr>
<td>Operation Supply Chain Visibility</td>
<td>Automated Inventory Parameters</td>
<td>Model based Material Flow</td>
<td>Digitzation</td>
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<td>Generate alerts based on Track real-time inbound and outbound material tracking</td>
<td>Measure &amp; Monitor supplier performance</td>
<td>Simulations of Material Flow to Optimize Line design Process</td>
<td>Enable Plant, Service Technicians to resolve issues faster (DocAI) Seamless contract management</td>
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<tr>
<td>Fault Prevention</td>
<td>Plant Maintenance &amp; Operations</td>
<td>Predicts Future Failure/Faults and take corrective action to prevent the failure</td>
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Detect an anomaly/Potential failure and take corrective action to prevent the failure

Key Capabilities and Snowflake Solution Tenets

**Capabilities on Smart MFG AI Cloud**
- IOT Data
- Zero Engineering
- AI/ML
- GENAI

**Infosys + Snowflake Tenets**
- Cirrus Link
- Snowpark Container Services
- Infosys Zero Data Engineering Powered by Snowflake Cortex
- Snowpark ML
- Document AI
- Snowflake Cortex – LLM Functions
- Snowflake Cortex – ML Functions

**Possibilities/Business Value**
- IOT Data availability at Speed
- Amplify Data Engineers
- Enable Plant &Service Technicians to resolve issues faster
- Ontology
- Automate, Accelerate Data Pipeline
- Semantic Search
- Summarization Capabilities
- LLM ML Functions for Forecasting/Predicting
- Time to market perspective
- Enabling MLOps capabilities

**Benefits Realized for one of the leading construction equipment manufacturer.**
- Increased MTBF by 25–30%
- 3x reduction in contingent damage and emergency parts ordering
- Reduced problem detection time by 75%
- 10–25% increase in parts/components lives
- Sustainability Compliance
- Improvement MTTR by 20-25%
- Improved Process Quality
- Scheduled work rose by 10–15%
Infosys Topaz is an AI-first set of services, solutions and platforms using generative AI technologies. It amplifies the potential of humans, enterprises and communities to create value. With 12,000+ AI use cases, 150+ pre-trained AI models, 10+ AI platforms steered by AI-first specialists and data strategists, and a 'responsible by design' approach, Infosys Topaz helps enterprises accelerate growth, unlock efficiencies at scale and build connected ecosystems.