SMART MANUFACTURING

Infosys Topaz

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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.)
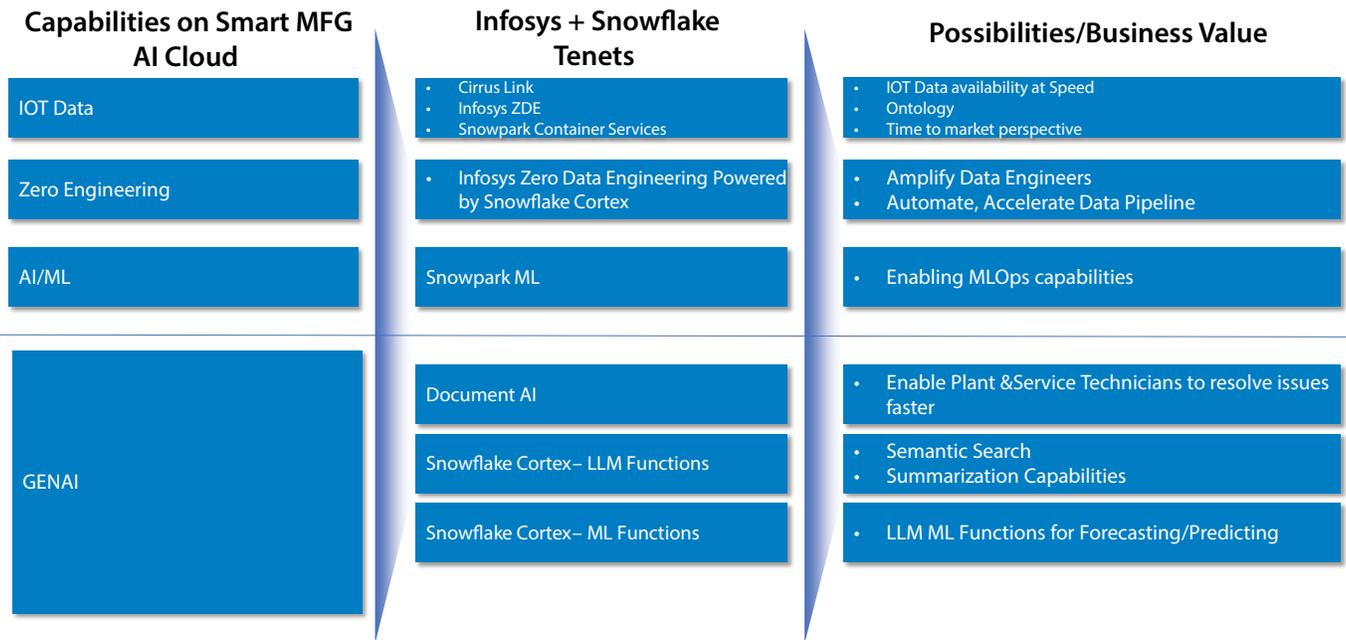
Key traits of the offering/solutions:

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

Digitized Manufacturing Planning & Execution	Customized Realtime Operator Instructions	Dynamic Production Planning	Real Time Material Management
Creation of manufacturing digital twin	Contextual work instructions based on specific product, skill level of operator	Optimize production schedule dynamically based on market demand, material availibility, resource availibility and manufacturing constraints	Real time inventory accuracy

Operation Supply Chain Visibility	Automated Inventory Parameters	Model based Material Flow	Digitization
Generate alerts based on Track real-time inbound and outbound material tracking	Measure & Monitor supplier performance	Simulations of Material Flow to Optimize Line design Process	Enable Plant, Service Technicians to resolve issues faster (DocAI) Seamless contract management

Fault Prevention	Plant Maintenance & Operations
Detect an anomaly/ Potential failure and take corrective action to prevent the failure	Predicts Future Failure/Faults and provide recommendations

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Key Capabilities and Snowflake Solution Tenets

Capabilities on Smart MFG AI Cloud	Infosys + Snowflake Tenets	Possibilities/Business Value
IOT Data	• Cirrus Link • Infosys ZDE • Snowpark Container Services	• IOT Data availability at Speed • Ontology • Time to market perspective
Zero Engineering	• Infosys Zero Data Engineering Powered by Snowflake Cortex	• Amplify Data Engineers • Automate, Accelerate Data Pipeline
AI/ML	Snowpark ML	• Enabling MLOps capabilities
GENAI	Document AI	• Enable Plant &Service Technicians to resolve issues faster
	Snowflake Cortex– LLM Functions	• Semantic Search • Summarization Capabilities
	Snowflake Cortex– ML Functions	• LLM ML Functions for Forecasting/Predicting

Benefits Realized for one of the leading construction equipment manufacturer.

- o Increased MTBF by 25–30%
- o 3x reduction in contingent damage and emergency parts ordering
- o Reduced problem detection time by 75%
- o 10–25% increase in parts/components lives

- o Sustainability Compliance
- o Improvement MTTR by 20-25%
- o Improved Process Quality
- o 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.

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For more information, contact askus@infosys.com

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