

ENGINEERING  
DIGITAL THREAD  
FOR INTELLIGENT  
ENTERPRISES



# Transforming Product & Operations with Agentic Digital Thread

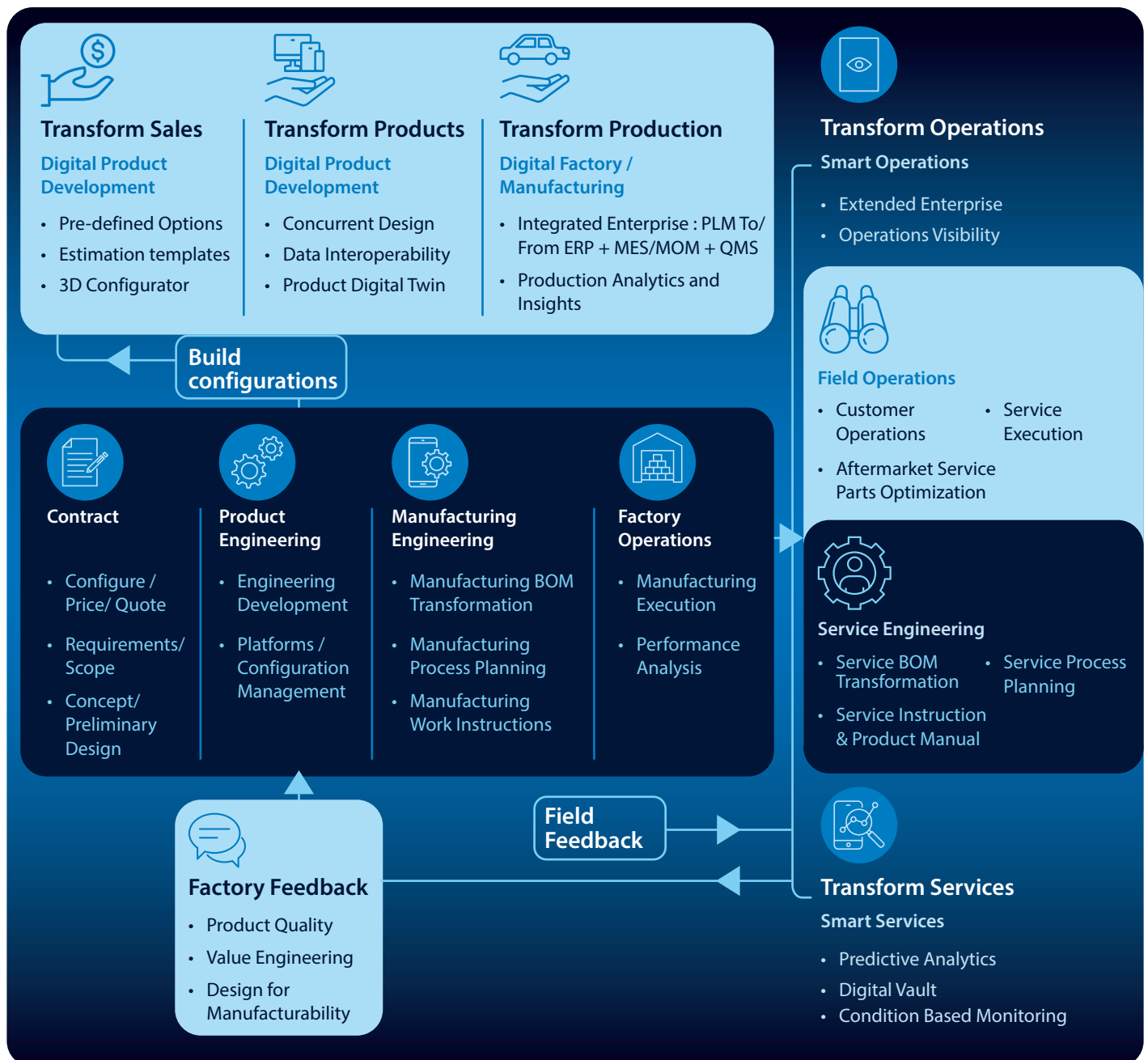
Infosys enables enterprises to build an intelligent and interconnected product value chain by seamlessly linking design, engineering, manufacturing, quality, supply chain, and service through a unified Digital Thread. Our Agentic Digital Thread ensures that accurate and authoritative product and process data flows across the entire lifecycle, from concept to end of life, improving visibility, traceability, compliance, and speed of decision making.

By strengthening foundational model based engineering and enriching it with Agentic AI, Infosys helps organizations move from passive data interoperability to AI driven decision systems that recommend corrective actions, optimize workflows, and accelerate product development. This combined digital fabric creates agile innovation cycles, reduces operational inefficiencies, and empowers enterprises to introduce new products faster and more reliably.

## Vision: AI First Digital Fabric for the Connected Enterprise

Most manufacturers struggle with disconnected systems, manual interventions, suboptimal utilization, and fragmented data. Infosys address these gaps by envisioning an intelligent agentic digital fabric that connects engineering, manufacturing, quality, supply chain, and service into a single, interoperable ecosystem.

This vision transforms the Digital Thread from a static data conduit into a dynamic system capable of real time decision support, automated impact analysis, and AI enabled optimization across the lifecycle. The result is enhanced agility, reduced engineering cycle time, improved compliance, and accelerated innovation.



## Our Value Proposition

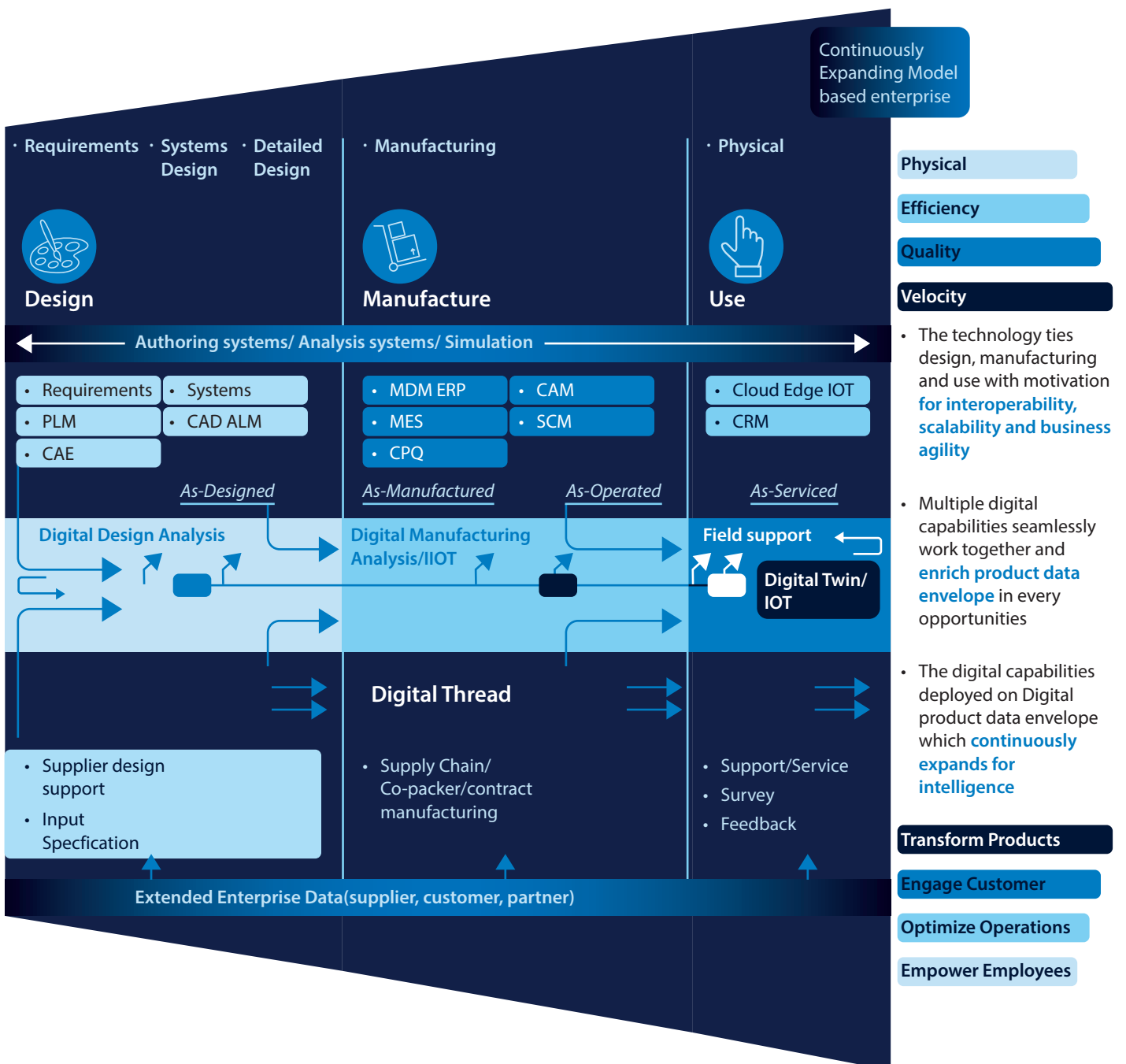
Infosys brings a comprehensive and deeply differentiated value proposition to enterprises embarking on Digital Thread transformation. With over 100 Digital Thread and Digital Twin implementations across aerospace, industrial manufacturing, automotive, heavy engineering, and consumer goods, we help clients modernize complex product lifecycles with confidence. Supported by a global pool of practitioners, Infosys delivers transformation at scale across PLM, MES, ERP, ALM, IoT, and AI ecosystems.

Our value lies not only in expertise but also in acceleration. Infosys offers 30+ Digital Thread accelerators, including reference data models, connectors, integration templates, and industry specific libraries, which significantly shorten deployment timelines. Additionally, we provide 50+ AI enabled platforms that embed intelligence into lifecycle processes—driving automation, decision

optimization, and lifecycle governance.

We also bring a strong collaborative ecosystem with 30+ technology partners and 10+ academia and industry collaborations, ensuring access to world class practices, open standards, and future ready architectures. Our global Digital Thread Academy and Living Labs help clients build institutional capability, co innovate on solutions, and accelerate user adoption with hands on immersion.

Most importantly, Infosys' programs consistently deliver measurable outcomes, 30%+ reductions in time to market, improved operational efficiency, stronger compliance, lower downtime, and quality improvements across engineering and manufacturing. These results demonstrate the strength of Infosys' AI first, Digital Thread first approach, designed to deliver speed, scale, and sustained value.



## Service Offerings

Infosys offers a complete suite of Digital Thread services from strategy to execution and long term value realization.



### Strategy & Roadmap

Infosys defines the Digital Thread vision, conduct maturity assessment, build ROI frameworks, identify high value use cases, and craft a phased transformation roadmap tailored to industry standards.



### Architecture & Design

Infosys defines the Digital Thread vision, conduct maturity assessment, build ROI frameworks, identify high value use cases, and craft a phased transformation roadmap tailored to industry standards.



### Model Based Enterprise Enablement

From MBSE to MBD to MBOM creation, Infosys enables seamless continuity across engineering and manufacturing through model driven practices.



### Platform Implementation & Integration

Infosys implements PLM, MES, QMS, ALM, IoT, CPQ, and ERP platforms with fit gap analysis, integration factory, data normalization, and closed loop manufacturing optimization.



### AI, Digital Twin & Advanced Analytics

Infosys builds product and process twins, integrates real time telemetry, and enables predictive insights, anomaly detection, SPC, quality intelligence, and operational optimization.



### OCM, Training & Digital Thread Academy

Structured change management, stakeholder mapping, hands on labs, curriculum driven learning, and adoption governance ensure successful enterprise rollout.

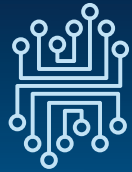


### ThreadOps & Managed Services

Our 24x7 service model ensures continuous monitoring, platform stability, performance tuning, and quarterly value realization assessments.

## Next Gen Digital Thread: Interoperability & Seamless Connectivity

Infosys' Next Gen Digital Thread is engineered to enable interoperability, scalability, and business agility across the Model-Based Enterprise. It connects design, engineering, manufacturing, operations, suppliers, and field service through a unified digital backbone.



### What the Next Gen Digital Thread Assures

Seamless flow of authoritative data across requirements -> MBSE -> CAD/CAE -> MBD -> MBOM/SBOM -> MES -> IoT -> Service

Integration across ALM, PLM, MES, ERP, CRM, SCM, QMS, IIoT, and engineering authoring systems

Expanding product data envelopes enriched at every lifecycle stage

A connected model based enterprise that shortens product introduction timelines, improves quality, and ensures compliance



### Business Outcomes Delivered

Faster product innovation & launch

Improved process traceability and closed loop feedback

Higher visibility across extended enterprises including suppliers & partners

Automated impact analysis & rapid decision making using embedded AI

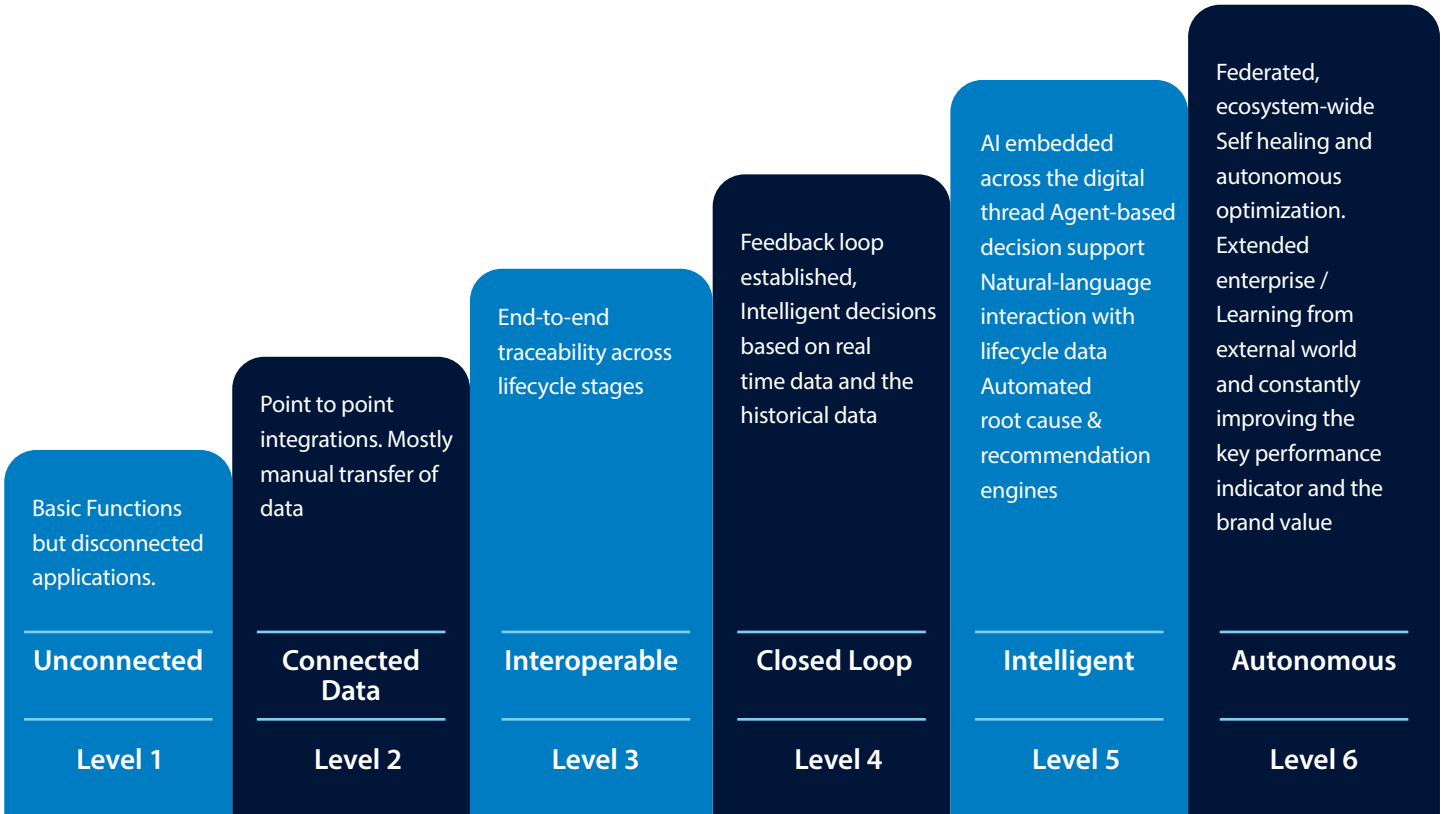


Figure 1. Digital Thread maturity framework for benchmarking and transformation



## Key Differentiators

Infosys differentiates itself through a unique combination of frameworks, accelerators, AI capabilities, and deep industry alignment.



### Digital Thread Maturity Framework

A structured model spanning Levels 1–6 helps clients evolve from basic connectivity to autonomous, self-healing digital enterprises with AI-driven decision loops.



### Connected Operations Platform

A unified workbench that integrates IT, OT, and ET environments to drive predictive analytics, operational excellence, and seamless production execution.



### Engineering Digital Accelerator

AI-based platform that evaluates digital thread readiness, identifies gaps, assesses data quality, predicts business risks, and recommends optimization actions.



### AI Infused Digital Fabric

Agentic AI models embedded into processes to enable automated recommendations, root cause analysis, corrective actions, and lifecycle intelligence.



### MES NEXT

Next generation MES solution leveraging AI/ML, industry-specific templates, and best practices for rapid deployment and predictable manufacturing.



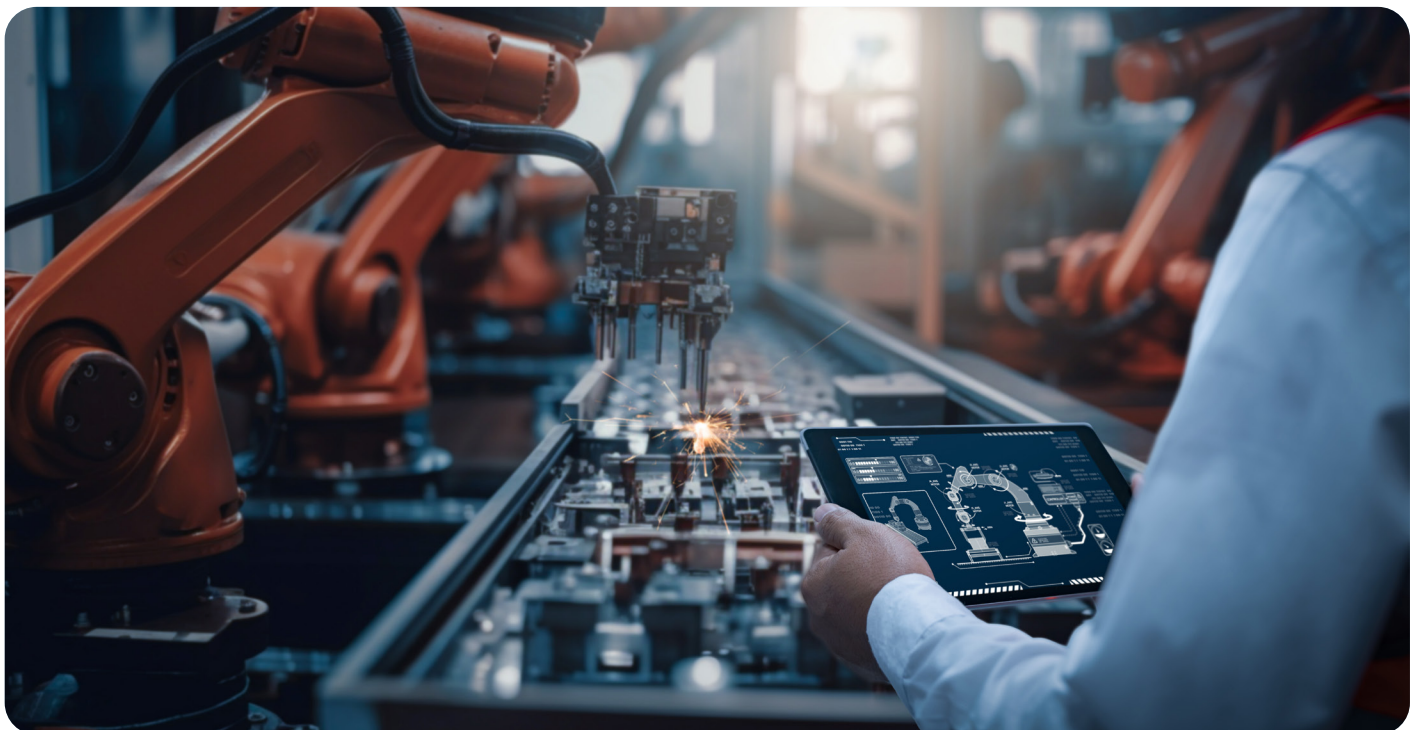
### Multi Context Protocol (MCP) Repository

A rich library of industry-specific engineering protocols optimized for AI solutions and digital thread use cases.

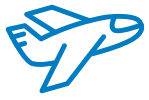


## Strategic Ecosystem Partnerships

Infosys collaborates with a strong network of leading technology partners, including Dassault Systèmes, Siemens, Oracle, SAP, PTC etc., to deliver scalable, interoperable, and future-ready Digital Thread solutions. These partnerships strengthen integration across PLM, MES, ERP, IoT, and cloud ecosystems, enabling seamless end-to-end transformation.



## Success Stories:



### AEROSPACE MANUFACTURER

Reduced design time by 30%, improved work instructions by 55%, and cut errors by 45% through a unified digital thread implementation.



### EUROPEAN HEAVY ELECTRICAL MANUFACTURER

Cut delivery lead time from 12 weeks to 8 days and improved CTO accuracy from 50% to 95% with digital thread integration.



### INDUSTRIAL EQUIPMENT MANUFACTURER

Enabled a 30% reduction in time to market by establishing a unified digital thread across engineering, manufacturing, and service.



### CPG CLIENT – MANUFACTURING DIGITAL TWIN

Delivered predictive optimization and real time insights improving yield, energy use, and equipment performance.



### NORTH AMERICAN EV & POWERTRAIN MANUFACTURER

Stabilized PLM transformation with 260+ user stories delivered at 99% accuracy and improved process efficiency by 30%.



### GLOBAL DRONE MANUFACTURER

Implemented 3DX–MES–ERP integrations and automated multi BOM workflows across 24 high accuracy releases.



### AERO STRUCTURES MANUFACTURER

Achieved seamless EBOM–MBOM transformation and CATIA–3DX integration with 3DXML based OEM data exchange

For more information, contact [askus@infosys.com](mailto:askus@infosys.com)



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