

TCS IKRIS™ - A Neural Manufacturing Solution



The industry is transitioning from an industrial way of working to a digital way of working. Frequent changes, increasing complexities, and dependency on technology with humans continuing to add value to operations will characterize the operations of the future. As part of this transformation, organizations are revisiting their operational practices to enable an ecosystem that is future ready. This journey is driven by the current operational objectives around improving productivity and effectiveness, improving cost of poor quality (COPQ), increasing agility in operations, mitigating risks, enhancing safety, managing existing skills inventory, and improving the bottom line. This phase of the transformation has the industry looking inward to help improve their performance.

IKRIS™, from Tata Consultancy Services, is based on Neural Manufacturing, a thought leadership framework that enables an organization and its ecosystems to become connected, cognitive, and collaborative. It drives agility and exponential growth, providing an intelligent edge. IKRIS™ helps organizations improve their operational effectiveness and productivity by providing contextual information and reducing error rates in operations. It ensures seamless collaboration between man, machines, and methods, facilitating agility under constraints. IKRIS™ is a configurable, business-focused solution that allows enterprises across industries to leverage neural traits like automation, connectivity, intelligence, and cognitive capabilities in their operations to drive changes enabling adaptability and agility.

Overview

Complex business ecosystems fused with disruptive technological innovation are setting new benchmarks for operational effectiveness. Organizations are battling challenges around cost imperatives, shrinking timelines, rigid monolith systems on the floor, paper-based operations, and lack of information technology and operational technology (IT-OT) integration.

Market dynamics demand a great degree of agility in operations today. Organizations are either dependent on monolithic and rigid systems that have outlived their usefulness or on a multitude of systems. While these systems meet the requirements around compliance and traceability, they do not cater to modern day needs around agility.

IKRIS™ allows organizations to configure the various building blocks to meet their needs. It bridges the gap in operations through process digitalization and enables paperless operations and real-time visibility on the go, allowing for quick course corrections.

Further, IKRIS™ provides the necessary intelligence for machine-based supervision with its machine-in-loop feature and integration with enterprise systems allowing for a degree of automation and validation. It provides a single window for work, driving an ecosystem of a collaborative workforce amid connected operations through IT-OT integration. This also helps an organization effectively manage its skills inventory leveraging available expertise. The solution establishes a connected workforce on the plant floor, allowing for seamless and first-time-right operations across various functions.

IKRIS™ can also integrate with industrial vision systems to automate inspections. Its ability to self-learn makes it an effective solution for operations, reducing learning curves. This inherent flexibility of IKRIS™ allows enterprises to leverage the solution across various functions via configurations.

In summary, IKRIS™ drives agility in operations through configurability, automation, and other features.

Solution

The following salient features characterize IKRIS™:

- **Deployable on multiple vehicles:** Allows users to access the solution through the web, tablets, smartphones, and desktops.
- **Modularity:** Allows modular implementation based on defined boundary conditions and functional mapping with customer requirements.
- **Configurability:** Allows business users to configure work packages like operating procedures, audits, checklists, etc., and dashboards through simple drag and drop features.
- **Enterprise integration:** Augments the capabilities of existing IT-OT systems and industrial systems like cameras and robots to facilitate automation.
- **Traceability:** Facilitates end-to-end information traceability from origination to execution, reinforcing accountability, agility, and visibility.
- **Function and industry-agnostic deployment:** Digitizes an organization's operating procedures and checklists across assembly operations, quality, maintenance, audits, plant startups, shutdowns, and safety inspections, while ensuring traceability and compliance.
- **Vision-based inspection:** Integrates with industrial vision systems to automate an organization's quality inspection with easy authoring of tests. Its self-learning capabilities allow for continuous improvements.
- **Collaboration:** Allows an organization to optimally use its existing skills inventory
- **AI & ML:** Equips organizations with better decision making thanks to artificial intelligence (AI) and machine learning (ML) capabilities.



Benefits

Enterprises can achieve operational effectiveness with IKRIS™ thanks to its numerous benefits:



Superior flexibility and versatility:

Enterprises can configure IKRIS™ for a variety of uses across multiple functions.



Productivity and effectiveness improvement:

Going paperless and providing guidance through contextual information eliminates errors, especially in complex operations. The solution ensures first-time-right every time to improve production volumes and asset uptime.



COPQ reduction:

Guided instructions combined with self-learning inspections and integrated with control systems automate inspections, reducing defects and rework.



Enhanced agility:

Business users can configure the solution to handle the changes driven by the market and implement them rapidly with minimal change management cycles.



Visibility on the go:

The workforce can access key performance indicators, process parameters, work status, and key documents while they are mobile.



Connected and empowered workforce:

IKRIS™ allows the workforce to collaborate while being mobile, leveraging the available skillsets and experience within an organization. Integration with various systems connects man, machine, and methods seamlessly on the plant floor.



Quicker onboarding:

IKRIS™ simplifies the onboarding process with easy-to-follow instructions that are contextual. Leveraging the solution for on-the-job training reduces training costs while improving productivity and minimizing defects.



Reduced operating costs:

Besides decreasing onboarding costs, IKRIS™ configures applications rapidly for enterprises, while at the same time, replacing multiple small apps on the plant floor. Improvements in first time right, productivity, and effectiveness all contribute to lower costs.



Faster returns:

Quick deployments across multiple functions provide returns from many channels.

The TCS Advantage



Neural Manufacturing framework:

TCS offers organizations services and solutions that leverage the tenets of the framework to become more agile and responsive to changes.



Strong domain and technical expertise:

TCS can solve business problems thanks to its domain knowledge and technological expertise that is benchmarked against industry standards.



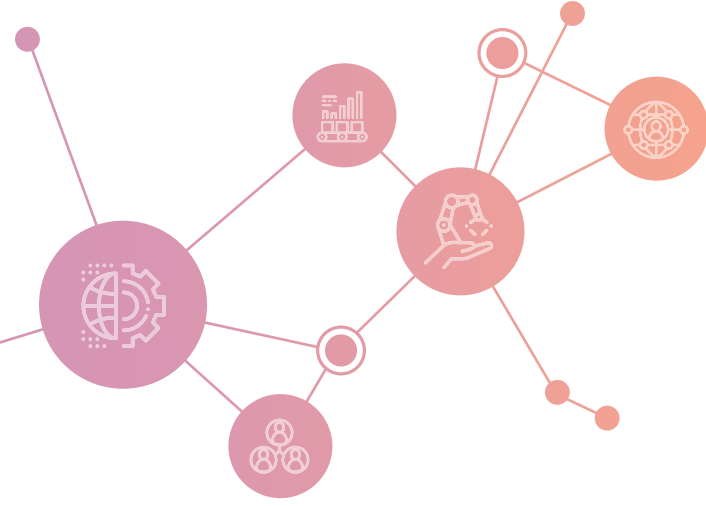
Global presence:

A well-established global footprint helps TCS achieve smoother rollouts and deliver robust post implementation support.



TCS' Innovation Labs:

These state-of-the-art labs are focused on identifying solutions for next-generation technology challenges to help customers on their digital transformation journeys.



Awards & Recognition



**TOP 3
IT SERVICES
BRAND**



To know more

Visit the [TCS Manufacturing](#) page on [tcs.com](#)

Email: enquiry.ikris@tcs.com

For more information on Neural Manufacturing, please visit
<https://www.tcs.com/the-evolution-of-the-manufacturing-industry-post-covid-19>

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