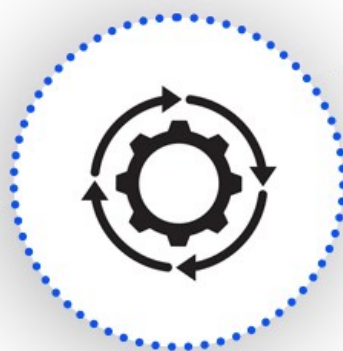


TCS Automation Services

G-Cloud 15: Lot 3
Service Definition



Service Description

TCS' Intelligent Automation (IA) services augments human capability using automation and artificial intelligence (AI) to help increase the potential of your organisation. We call this approach **AI-Infused MFDM™ (Machine First Delivery Model)**. It is a transformative delivery framework that places *automation and AI at the centre* of operations by giving technology the **first right of refusal** before human intervention. We use this approach to design and elevate efficiency, scalability, and user experience across IT and business operations.

At its core, MFDM™ leverages **AI driven innovations and non-AI automation technologies** to sense, understand, decide, and respond to events autonomously. The model aims to shift organisations from reactive, human-dependent operations to a model that is **proactive and predictive**. This allows enterprises to use technology to enhance human creativity and unlock exponential value.

Intelligent automation helps us eliminate mundane steps, decide between innumerable choices, and deliver real-time analytical information to guide informed and instantaneous decisions. AI-infused MFDM™ also powers **self-healing operations**, anomaly detection, automated triage, predictive analytics, and pattern recognition to significantly reduce mean time to resolution (MTTR), enhance availability, and improve service quality. It proactively identifies automatable tasks, improves SLA/XLA adherence, and drives measurable outcomes such as reduction in incidents, faster problem resolution, and improved operational resilience.

By empowering machines and augmenting human expertise, AI-Infused MFDM™ enables enterprises to achieve **higher productivity, cost optimisation, and future-ready IT operations**, while maintaining transparency, governance, and customer-centricity throughout the delivery lifecycle.

Service Features

TCS Offerings and Frameworks for Intelligent Automation – Enabling Future Ready Enterprise

Enterprises are looking for Next Generation Operating models, fuelled by cutting edge technologies (Artificial Intelligence, Machine Learning, Generative AI and Agentic AI Technologies) which can facilitate the shift from tool-based reactive Business and IT Operations in silos, to a data and analytics-driven, 'Proactive, Predictive and Preventive' Business and IT Operations approach.

With TCS's MFDM™ target operating model, Automation and AI technologies are designed to create a resilient and efficient digital business, allowing staff to focus on more creative and innovative tasks leading to higher productivity and job satisfaction. Machines take over repetitive tasks and even learn to respond to situations based on historical and third-party data.

TCS provides the following Implementation services:

- **Intelligent Process Automation:** Reimagine business processes with RPA, IDP, Chat Bots and AI/ML/Generative AI/Agentic AI driven business solutions
- **Intelligent IT Operations Automation:** Increase productivity, client experience and personalisation in your IT operations
- **Process Mining and Process Intelligence:** Analyse, monitor, and optimise business processes using real-time data and advance analytics to drive informed decisions and continuous improvement.

Intelligent Process Automation

TCS' Intelligent Process Automation practice provides end-to-end Business Process Automation Services to clientele across various industry segments. The range of services include:

- **Intelligent Automation Process Assessment** – Includes the exercise of identifying Business Process Automation opportunities, Cost of Implementation, Savings Potential, Return of Investment (RoI) Analysis and Business Case formulation
- **Implementation Services** – Design, Build and Deployment of Automation solutions
- **Test Automation** - Automatically manage test data, execute test cases, validate outcomes, and report results without manual intervention, for both RPA automations and software applications
- **Support** – Support for Automation solutions deployed in production
- **Intelligent Automation Infrastructure Services** – Enablement and support of base Infrastructure on which the Automation solutions get deployed
- **Continuous Improvement** – Create a culture of continual improvement fostering an incremental and iterative approach leading to numerous small improvements which can roll up to create significant value and yield impressive ROI.

TCS's Go-in strategy for Intelligent Automation Demand Generation

TCS has a proven strategy for demand generation. Demand and discovery management is one of the most critical success factors. A clear roadmap to enable scaling that tends to create qualified demand on continuous basis is essential such that there is seamless implementation of the automation.

Process inventory is collected from the businesses to assess Intelligent Automation suitability, process walk through and SME discussions are conducted to assess automation suitability.

There are various demand and discovery management strategies to systematically build an intelligent automation pipeline using manual, consultant-led, and data- and tool-based approaches.

- **Approach 1 – Use existing engagement** – In case of existing engagement, scan the landscape of current engagement. Identify the top ~20% processes, consuming ~80% of the efforts. Apply a decision matrix to filter the potential candidates for intelligent automation. Assess the candidates and publish the report.
- **Approach 2 – Customer identified target** – Where a client identifies the potential target for intelligent automation (business tower/ use cases), makes volumetric data available for analysis. TCS analyses the data, assesses the candidates and assists in prioritising the candidates for intelligent automation.
- **Approach 3 – Data/Tool based assessment** – TCS proceeds with this model where the target areas of automation are not identified. Various data points are collected from the ~20% of the business areas and manually analysed. Should there be a requirement for any Process Mining/Intelligence Tool, it can be leveraged to deliver more scientific data within each process.

TCS Intelligent Automation Process Assessment Framework – ROI Based Approach

TCS uses a robust process assessment framework, deep contextual knowledge across domains, reusable assets and accelerators for performing process assessments and prioritising process candidates for intelligent automation based on selection criteria.

TCS then decides the automation levers that can be best applied for automating the process. It can be RPA, or RPA associated with Cognitive ML/Generative AI/Agentic AI, Analytics or other digital interventions.

The opportunities are 'bucketised' and an assessment report is generated.

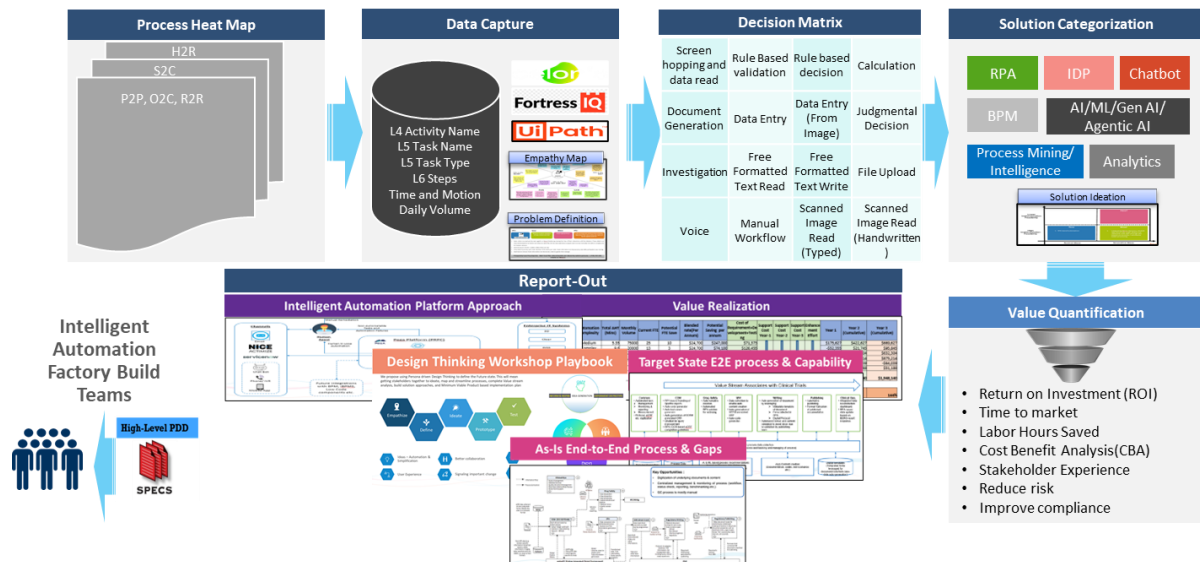


Figure 1 Process Assessment Framework

Automation Factory Delivery model

TCS recommends adopting a factory-based Automation delivery model where processes will be automated by following a rapid-agile delivery methodology, in conformance to industry best practices of building reusable components, and templates.

An Automation Factory will be instituted on following principles:

- **Standardisation:** Activities within the factory will be standardised for consistent development
- **Accelerators:** The factory activities will be supported by best-in-class reusable components, frameworks and templates (for estimation, benefit evaluation, SDLC artefacts, exception handling & logging frameworks, API integration templates, development and support best practices, synthetic data generators, prompt engineering templates, pre-trained AI models, AI Agents for enterprise tasks and so on)
- **Reusability:** Factory will follow a library driven approach for thorough code/component reuse
- **Collaboration:** A lifecycle management solution (ALM) will be used to track different phases in factory
- **Clear Timelines:** Every phase of the factory will have defined timelines of operation and ways of working established between other dependent groups (like operations, security, infrastructure and so on)

Implementation Services

Architecture and Design

Architecture has to be fail-proof, scalable, secure with robust identity and access management system. Intelligent Automation design is based on the following principles:

- **Modularity:** Build reusable components (e.g., login authentication, data fetch, validation, open and close applications).
- **Resilience:** Include retry logic, exception handling, fallback paths, audit logging, standardised error capture
- **Security:** Ensuring proper security measures is essential. Follow secure-by-design approach to facilitate smooth data transition, ensuring data security both at rest and in transit applying data encryption, access controls as required and compliance to regulatory requirements
- **Performance and Scalability:** Performance and scalability are critical considerations. Various performance aspects such as latency, response time, data throughput, error handling and retry logic, and caching strategies need to be considered. For scalability, factors including asynchronous messaging, elastic infrastructure, load balancing, API rate limiting and throttling, and monitoring and observability have to be considered
- **Data Engineering** consolidates sources and sets up pipelines for ingestion, extraction, semantic chunking, and policy-based redaction for compliance. Vector stores, indexing, and search technologies are defined to suit specific requirements
- **Responsible and Ethical AI:** Addresses bias in AI-Models through a comprehensive Responsible AI framework built around five tenets—secure, accountable, fair, transparent, and identity protecting anchored in ethical guidelines and regulatory requirements such as GDPR, ISO/IEC 27001, and EU AI Act. From outset, ethical principles of fairness, accountability, transparency, privacy, and human oversight guide all stages of model development and deployment
- **Human in the Loop:** Route exceptions or approvals to business users via integrated dashboards or email. This is implemented as per requirement, where important approvals like loan dispersal are required
- **Integration architecture:** Designing an integration architecture that is robust and scalable using options like API, UI automation, document pipelines, wrappers, adapters, connector, middleware and, where mandatory, use direct integrations. Loosely coupled architecture is recommended; and event driven to provide flexibility and reduce future dependencies.

Development Services

- Build automation with standardised coding and best practices.
- Conduct unit, integration, and UAT testing to validate functionality and performance.

- Use version control and documentation for traceability.
- Ensure secure credential management and audit logging.
- Integrate with CI/CD pipelines for scalable rollout.

Test Automation

A robust Test Automation strategy framework focuses on building an end-to-end, scalable quality ecosystem that unifies RPA testing and application testing under a single platform.

The following key principles are to be considered:

- A detailed process analysis to maximise Test automation benefits and utilise best practices and contextual knowledge to design the solution.
- Drive standards based, reusable components implementation for Test automations. Bots and Application design to look at commonality and reusability in scenarios, Test steps for Test cases in scope thereby building a library of reusable components for future projects.
- Integration with Test cases and ALM repositories, CI/CD pipelines, to achieve full traceability from requirements to defects, ensuring rapid feedback and continuous validation throughout the development lifecycle.

Support Services

A scalable support approach for automations focuses on building a strong prevention culture by shifting from reactive issue handling to proactive, intelligence-driven operations. The following Smart monitoring and Preventive care approaches are to be considered:

- **Data driven Operating Model for Transparency and Operational excellence:** Regular Reports to keep the stakeholders updated on time, Analysis and Insights to drive Preventive actions, KPIs for Benchmarking, SLA heatmaps, finding outliers, trend analytics and to trigger action to continuously optimise performance and eliminate repetitive incidents.
- **Automate the Automations:** With scaleup of automations to be supported, the per automation support cost does not increase linearly and is enabled through smart monitoring and preventive care approaches such as automated monitoring, health check bots and pre-deployment validations that reduce failures before they occur.
- **Generative AI and Agentic AI solutions** enhance support by performing automated incident triaging, summarising alerts, identifying probable root causes, and recommending code fixes or configuration changes, significantly shortening MTTR.
- **Cost optimisation:** Virtual Machines and Licenses optimisation led through Smart Scheduling, Run time Resource pooling and auto-scaling infrastructure.

- **Known Error Manual and recovery procedure:** For every failure in production a recovery procedure or a Service request fulfilment procedure is documented so that Support Team can follow this independently in event of failure.

Together, these capabilities create a resilient, predictive, and cost-optimised support ecosystem for enterprise intelligent automation.

Intelligent IT Operations Automation

The diagram below depicts a comprehensive view of Intelligent IT operation automations across the entire IT spectrum, covering:

- Intelligent Business aligned Command Centre
- End User services and Service Desk
- Infrastructure and Applications technology operations
- Cloud operations

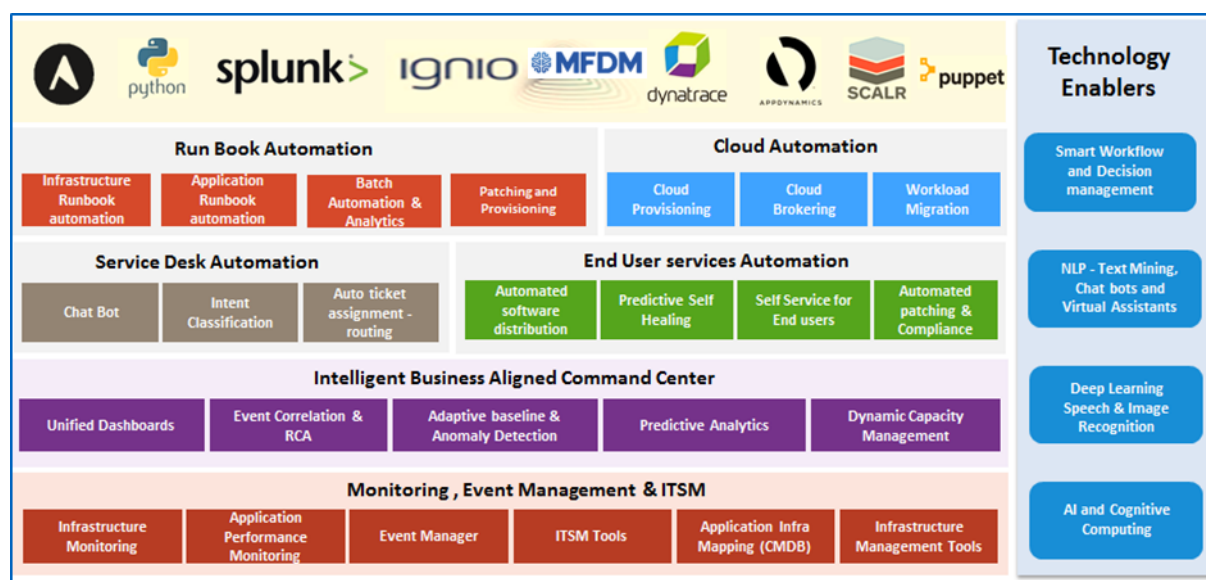


Figure 2: Intelligent IT Operations automation

Run Book Automation

TCS provides automation for routine operational tasks through Infrastructure Runbook Automation, Application Runbook Automation, and Batch Automation & Analytics. These solutions streamline repetitive processes like patching, provisioning, and scheduled jobs, reducing manual intervention and improving efficiency. Technologies such as Python, Splunk, and Ignio enable intelligent orchestration and analytics-driven execution, ensuring faster resolution and compliance.

Cloud Automation

TCS offers end-to-end automation for cloud environments, including Cloud Provisioning, Cloud Brokering, and Workload Migration. These services leverage platforms like MFDM™, Dynatrace, and Puppet to automate resource allocation, optimise workload placement, and accelerate migration to hybrid or multi-cloud setups. This approach ensures agility, cost optimisation, and governance across cloud ecosystems.

Service Desk Automation

TCS enhances IT support through AI-driven Chatbots, Intent Classification, and Auto Ticket Assignment & Routing. These capabilities reduce ticket resolution time and improve user experience by enabling self-service and predictive assistance. NLP and cognitive technologies power these automations, allowing service desks to operate with minimal human intervention while maintaining high accuracy.

End User Services Automation

For end-user environments, TCS provides Automated Software Distribution, Predictive Self-Healing, Self-Service for End Users, and Automated Patching & Compliance. These solutions proactively detect and resolve issues, distribute updates seamlessly, and empower users with self-service portals. This minimises downtime and enhances productivity across enterprise workplaces.

Intelligent Business Aligned Command Centre

TCS delivers a unified command centre with Integrated Dashboards, Event Correlation & Root Cause Analysis, Adaptive Baseline & Anomaly Detection, Predictive Analytics, and Dynamic Capacity Management. These capabilities enable real-time visibility, proactive incident prevention, and capacity optimisation, aligning IT operations with business objectives.

Monitoring, Event Management & ITSM

TCS provides comprehensive monitoring and IT service management through Infrastructure Monitoring, Application Performance Monitoring, Event Manager, ITSM Tools, Application Infra Mapping (CMDB), and Infrastructure Management Tools. These solutions ensure continuous observability, automated event handling, and streamlined ITSM processes for improved reliability and compliance.

The automation tools are selected based on a technology tower level analysis of the client environment and other parameters as listed below:

- Tool capabilities & proven experience in similar deployments
- Fit to the client's requirements and IT landscape
- Reuse of existing tools, maximising returns on investments.

Cognitive Automation Approach for Enterprise IT Operations

TCS's Cognitive Automation approach for Enterprise IT Operations is designed to shift IT Ops from reactive firefighting to intelligent, self-healing operations. At the foundation is the ability to learn context by constructing a single, trusted view of the enterprise IT landscape. By continuously self-learning normal system behaviour and identifying patterns across infrastructure, applications, and services, the platform builds operational awareness that enables accurate detection of deviations and emerging risks. This contextual intelligence allows IT teams to manage alerts more effectively, drawing attention to the right alerts at the right time through anomaly detection, prediction, filtering, and prioritisation, significantly reducing noise and alert fatigue.

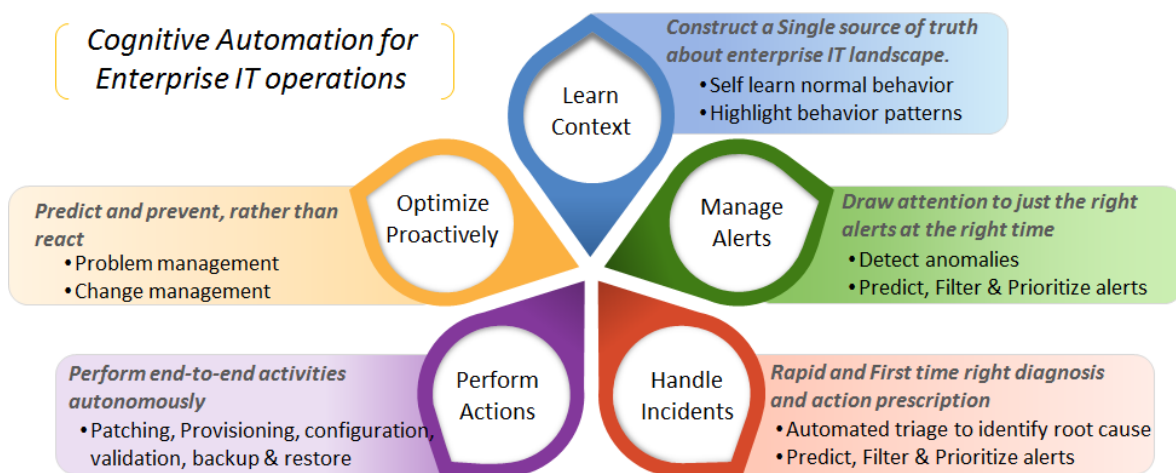


Figure 3 Cognitive Automation for Enterprise IT Operations

Building on this intelligence, the solution enables proactive optimisation and autonomous execution across IT operations. Instead of reacting to incidents, cognitive automation helps predict and prevent issues through advanced problem and change management. Incidents are handled with rapid, 'first-time-right' diagnosis, leveraging automated triage and root cause analysis to recommend or trigger corrective actions. Finally, end-to-end operational activities such as patching, provisioning, configuration, validation, and backup/restore are performed autonomously. Together, these capabilities help TCS IT Ops Automation deliver higher resilience, faster resolution, reduced operational costs, and a consistent, always-on digital enterprise experience.

Process Mining and Process Intelligence

Process mining technology uses operational data from enterprise systems to create a digital twin to map out what is truly happening within business processes. It extracts event log information from organisations source systems to automatically map workflows, uncover inefficiencies, and recommend improvements.

Process mining analysis significantly compliments process intelligence by transforming raw transactional data into actionable insights that enhance decision-making and operational efficiency. Together they enable organisations to move beyond descriptive insights to prescriptive and predictive capabilities, driving continuous improvement and supporting system modernisation initiatives.

- **Transforming Processes enterprise-wide @ Scale** Leveraging partner ecosystem for enterprise-wide Process Mining Implementation & Process Transformation in 'Existing + New Accounts' across BGs and Geos
- **Focusing AI Horizons** Exploring AI-led Process Mining, (Process Co-pilot, Prediction Builder, Annotation Builder) Positioning AI-led offerings as differentiators
- **Process Mining Support, Enhancements and Value Realisation**, Continuous improvement for existing deployments with help of Value realisation consultants for measurable outcomes
- **Supply Chain 360: Future Ready Operations** Supply Chain Consulting e.g., Battery Passport compliance and sustainability initiatives, Consulting-led transformation in logistics and procurement.

TCS IP Platforms and Frameworks for Intelligent Automation

TCS provides multiple IP Offering platforms and frameworks for automation including:

- **TCS Cognix™** – An AI-driven human-machine collaboration suite powered by a Machine First approach to accelerates enterprise digital transformation, using an ecosystem of pre-built solutions
- **TCS ignio™** - TCS' cognitive automation solution for IT operations that applies a unique closed-loop approach that transforms IT and business operations from reactive to proactive.
- **TCS ARE Framework** – TCS' Application Reliability Engineering (ARE) Framework, aligned with G-Cloud 15 principles, embeds GenAI-driven automation across the AMS lifecycle to deliver resilient, scalable, and experience-focused IT operations.
- **TCS WisdomNext™** – An industry-first Generative AI aggregation platform designed to accelerate enterprise adoption of AI at scale

TCS Cognix™ – Intelligent automation suite for contextual solutions.

TCS Cognix Platform is an AI driven Human-Machine collaboration suite that codifies, contextual knowledge across enterprises covering Business, Infra and application related automation needs of the organisation. The Cognix platform comprises of 600+ AI based pre-build value builders across 142 industries and 232 Business functions using a combination of TCS inhouse and market leading products.

TCS ignio™

TCS ignio™, a SaaS platform built on an agentic architecture, aims to make the autonomous ITOps journey smoother, more efficient, and future ready. It seamlessly integrates observability, AI-powered insights, and closed-loop automation to drive autonomous, resilient, and intelligent IT operations.

ignio™ Product Capabilities:

- Real-time observability– Get visibility across all technology components on a single platform, with real-time metrics, logs, and traces, as well as synthetic monitoring capabilities with ignio Observe. ignio helps correlate data across monitoring tools and provide insightful analytics for IT operations.
- Business health monitoring - Ensure business continuity with an AI based solution to track and analyse the health of key business processes. ignio provides vertical observability connecting business functions and KPIs, with related applications and infrastructure layers; as well as horizontal observability into business transaction flows across applications.
- IT event and incident management - Detect anomalies, reduce alert noise and prevent outages with root-cause analysis and actionable intelligence for event management. Leverage AI and automation to auto-triage, self-heal incidents and enable proactive operations with accurate predictions and recommendations.
- IT operational risk mitigation - Reduce operational risks and compliance gaps with context-driven assessment of issues across the IT enterprise, autonomous compliance checks, intelligent patches and automated fixes for faster mitigation.
- Cloud cost optimisation - ignio reduces the complexity of managing IT operations across multi-cloud, hybrid environment, and helps in cloud cost optimisation with multi-cloud cost analytics, for effective governance.

TCS Application Reliability Engineering Framework (ARE)

Our **Application Reliability Engineering (ARE) Framework**, aligned with G-Cloud 15 principles, embeds **GenAI-driven automation** across the AMS lifecycle to deliver resilient, scalable, and experience-focused IT operations. By leveraging intelligent automation and

predictive analytics, we proactively identify service improvement opportunities, streamline routine tasks, and enhance end-user support.

Key capabilities include:

- **Self-Healing Technology Stacks:** Automated remediation to minimise downtime and reduce manual interventions.
- **Predictive & Proactive Incident Management:** AI-powered anomaly detection and trend analysis for early issue resolution.
- **End-to-End Process Automation:** Elimination of repetitive tasks and acceleration of ticket resolution through orchestration and workflow automation.

To ensure **continuous improvement as a core service element**, we allocate dedicated capacity within our AMS delivery model for enhancements and optimisations. This approach enables incremental improvements without formal change requests, ensuring agility and responsiveness to evolving business needs. Embedded governance and iterative delivery cycles drive innovation aligned with organisational objectives.

TCS WisdomNext™ – AI-native enterprise automation accelerator.

TCS AI WisdomNext™ is an industry-first Generative AI aggregation platform designed to accelerate enterprise adoption of AI at scale. It addresses one of the biggest challenges organisations face today: navigating the fragmented and rapidly evolving AI ecosystem. WisdomNext™ aggregates multiple GenAI services, cloud platforms, and foundational models into a single unified interface, enabling businesses to experiment, compare, and deploy AI solutions seamlessly.

The platform offers ready-to-deploy solution blueprints, modular components, and low-code capabilities, allowing enterprises to build and fine-tune custom LLM-powered applications quickly and cost-effectively. It supports real-time experimentation with internal, vendor-specific, and open-source models, while providing centralised governance and regulatory guardrails to ensure compliance and security. Intelligent evaluator bots embedded in WisdomNext™ help organisations assess model accuracy, cost, and performance, making it easier to select the right AI stack for their needs.

Beyond model orchestration, WisdomNext™ integrates with DevSecOps toolchains, accelerates software development through code assistants, and enables fine-tuning-as-a-service for domain-specific AI applications. Its differentiators include prefabricated industry-specific blueprints, reuse of existing components, and built-in adapters for enterprise workflows, which collectively reduce time-to-value and operational complexity. By combining AI-first principles with agentic AI capabilities, WisdomNext™ empowers

organisations to unlock the full potential of their data, drive innovation, and achieve sustainable competitive advantage in a compliant and scalable manner

Service Benefits

- **Drive superior customer experience:** Focus on business outcomes such as improved customer experience, increased speed to market, straight-through processing, new business models, and personalised services, instead of FTE-associated productivity improvements.
- **Personalised services for stakeholders:** Access quality, customised information across the enterprise in real time, 24x7.
- **Freeing human resources for higher value work:** Human resources can focus on the more creative and innovative tasks leading to higher productivity and job satisfaction, as machines take over repetitive tasks and even learn to respond to situations based on historical and third-party data.
- **Transform services and operations:** Shift from a people-led and technology-assisted approach to a technology-led and people-guided one to drive up to 100 times improvements in services.

Why TCS

The widespread adoption of technology by businesses has led people to expect similar experiences from the public sector. Governments across the world are harnessing digital innovation to respond to people's needs and empower them.

The vision is clear and compelling: a forward-thinking government that embraces innovation and is always a step ahead, ready to meet the future.

We ensure that technology and strategy work together to help governments meet people's needs, embrace innovation, and address complex issues – from climate change and public health to education and national security.

Our approach is to work in partnership with our customers, co-developing solutions to assist in digital transformation and re-imagination. TCS helps organisations handle the competing pressures that the shift to digital can bring; providing the skills and scale needed to react quickly to short-term concerns, while always ensuring that the focus remains on what is right for the client in the long-term.

The TCS Advantage:

- **Modernisation Expertise** - TCS works closely with several Public Sector agencies across the globe to help leverage digitisation to modernise services
- **Public Sector domain experience** - Extensive experience in solutions for governments, local agencies, municipal corporations, public-sector entities, and security establishments
- **Dedicated Centres of Excellence (CoE)** - Mature assets and accelerators
- **Leveraging strategic partnerships with product vendors** – Strategic alliances with industry leading and niche partners. We leverage the TCS Co-Innovation Network (COIN™) that brings start-ups, academia, customers, research institutions together to create effective, innovative solutions to business problems.
- **Large pool of skilled resources** – The right blend of management, industry, and technology expertise.

Pricing

Please refer to the TCS Pricing Document for this service.

Terms and Conditions

Please refer to the TCS Terms and Conditions for this service.

About Tata Consultancy Services

Tata Consultancy Services (TCS) (BSE: 532540, NSE: TCS) is a digital transformation and technology partner of choice for industry-leading organizations worldwide. Since its inception in 1968, TCS has upheld the highest standards of innovation, engineering excellence and customer service.

Rooted in the heritage of the Tata Group, TCS is focused on creating long term value for its clients, its investors, its employees, and the community at large. With a highly skilled workforce spread across 55 countries and 202 service delivery centres across the world, the company has been recognized as a top employer in six continents. With the ability to rapidly apply and scale new technologies, the company has built long term partnerships with its clients – helping them emerge as perpetually adaptive enterprises. Many of these relationships have endured into decades and navigated every technology cycle, from mainframes in the 1970s to Artificial Intelligence today.

TCS sponsors 14 of the world's most prestigious marathons and endurance events, including the TCS New York City Marathon, TCS London Marathon and TCS Sydney Marathon with a focus on promoting health, sustainability, and community empowerment. TCS generated consolidated revenues of over US \$30 billion in the fiscal year ended March 31, 2025.

Visit www.tcs.com

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