



TCS Smart Quality Engineering Platform Services

Quality Engineering



Intelligent technologies, alongside cloud computing, automation, and agile software development, are today underpinning enterprise digital transformation, helping companies increase operational efficiency, customer centricity and profitability. For organizations having numerous applications entailing significant IT costs, embracing this Business 4.0 approach calls for a paradigm shift in the way the quality assurance (QA) & Testing function works. With DevOps and agile becoming the norm, QA needs to adopt an engineering approach for superior delivery and increased speed to market. As enterprise applications get increasingly complex, organizations need a cost-effective, tool-agnostic platform that can intelligently orchestrate releases.

Tata Consultancy Services (TCS) Smart Quality Engineering (SmartQE) platform is a first-of-its-kind, artificial intelligence (AI)-based platform that offers integrated delivery of quality engineering services. Developed on the principles of 'Integration, Intelligence and Automation', SmartQE optimizes the QE lifecycle through contextual insights and actionable outcomes for enhanced quality and predictability of application releases.

Overview

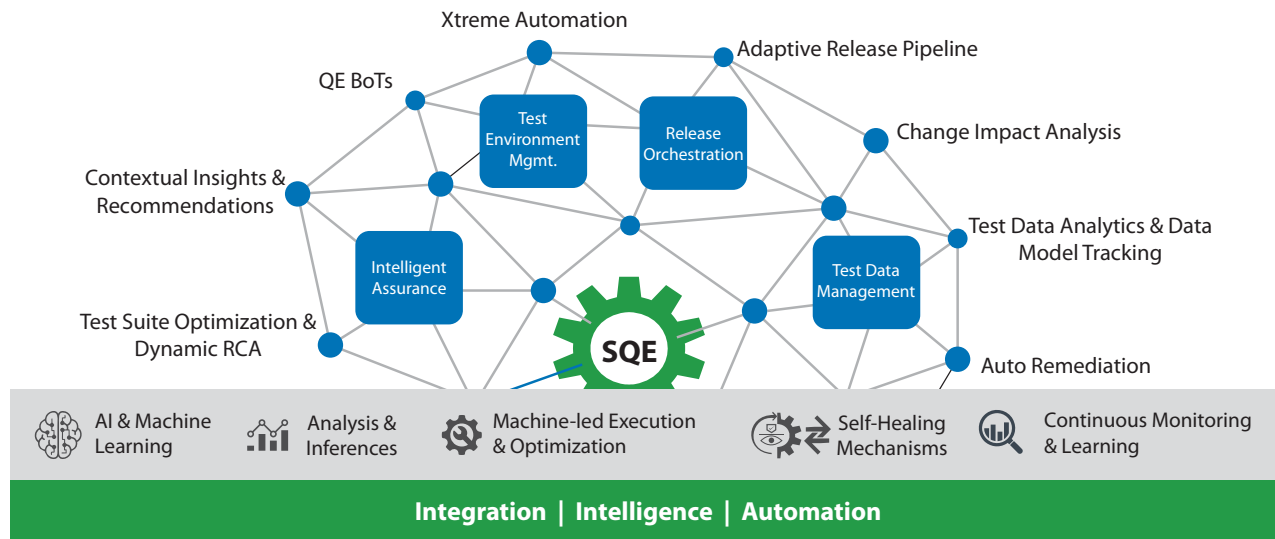
Organizations focused on digital transformation are seeking to leverage disruptive technologies such as artificial intelligence and machine learning, as they configure intelligent solutions to deliver changes with greater agility. In this regard, ensuring first-time-right engineering quality across the change delivery lifecycle can play a fundamental role in boosting efficiency.

TCS SmartQE platform helps organizations address this imperative by smoothly integrating their existing ALM toolsets such as Plan, Build, Code and Test. The platform harnesses the latest AI and machine learning algorithms to generate contextual insights, which enable teams to collaborate for achieving high-velocity quality. SmartQE also adopts a comprehensive automation approach across release engineering streams such as Functional, Non-functional, Test Data and Environments. It delivers intelligent recommendations to help companies implement superior Quality Engineering services, by proactively anticipating the risks to quality through predictive analytics. The end-to-end solution facilitates accelerated application delivery, besides exhibiting self-healing capabilities across QE services—including test automation, data, environment, and release orchestration. Our flexible, outcome-driven platform is tool agnostic, with the ability to deliver individual Quality Engineering services in modular capacity.

Our Solution

TCS SmartQE platform drives superior quality engineering across the release life cycle through:

- **Intelligent assurance:** Defect prediction, optimized test suite recommendations, application hot spots, test script and code traceability, enabling automation across release value chain
- **Release orchestration:** Change impact analysis on test scripts, environments and data with tool-agnostic pipeline services for continuous delivery; intuitive and customizable dashboard
- **Test environment management (TEM):** Integrating with continuous delivery tools to orchestrate effective and efficient provisioning, reservation and tracking of environments; template-driven provisioning through virtualization and containerization
- **Test data management (TDM):** Integrating with widely used industry tools to provision test data on demand, virtualize and version data for higher reusability
- **QEBots:** Intuitive bots to provide contextual QE analytics-based insights, and drive effective execution of SmartQE services through enterprise collaboration tools



Benefits

Through its holistic Quality Engineering approach, TCS SmartQE platform delivers the following benefits:



Accelerate : Enable increased business agility through intelligent automation across the QE life cycle, reducing overall cycle time by 35%



Optimize: Eliminate waste by adopting advanced analytics and lean practices, leading to enhanced engineering productivity and a reduction of up to 20% in cost of quality



Transform: Overhaul the traditional Quality Assurance approach to one centred around an engineering paradigm



Collaborate: Enable seamless hand-offs and reduce manual footprints through intuitive bots to perform pin pointed action

The TCS Advantage

Collaborate with TCS to leverage our rich experience and expertise of driving quality engineering transformation for enterprises across industry verticals:

- **Comprehensive platform**: TCS SmartQE solution is a tool agnostic, non-intrusive platform that seamlessly integrates with and orchestrates widely used commercial and open source tools to generate contextual insights and recommendations.
- **Market leaders**: At TCS, we have pioneered artificial intelligence (AI) in the assurance industry. Our platform is the first of its kind to leverage state-of-the-art TCS and market solutions to deliver integrated quality engineering services.
- **Intelligent platform**: Our adaptive solution is equipped with AI techniques, capable of multiple features including self-learning, and auto-remediation
- **Robust ecosystem**: We encourage our clients to tap into modular, outcome based SmartQE solution services built on extensive infrastructure that comprises the best of TCS, open source and commercial tools that drive superior quality engineering.

Awards & Recognition



To know more

Visit the [Quality Engineering](#) page on [tcs.com](#)

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About Tata Consultancy Services Ltd (TCS)

Tata Consultancy Services is an IT services, consulting and business solutions organization that delivers real results to global business, ensuring a level of certainty no other firm can match. TCS offers a consulting-led, integrated portfolio of IT and IT-enabled infrastructure, engineering and assurance services. This is delivered through its unique Global Network Delivery Model™, recognized as the benchmark of excellence in software development. A part of the Tata Group, India's largest industrial conglomerate, TCS has a global footprint and is listed on the National Stock Exchange and Bombay Stock Exchange in India.

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