case study

QA To QE Transformation
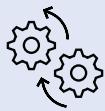for one of the Leading Health Technology Customer

Client Overview:

One of the world's largest healthcare companies, the client is firmly committed to improving people's health and well-being through innovation in everything from artificial intelligence to machine learning and virtual reality.
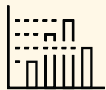
Challenges:

Inadequate E2E test automation coverage

High cycle time with multiple COTS test automation tools, leading to high tool and maintenance costs
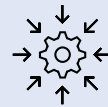
Growing test repository with high duplicity and considerable overlap

Huge regression suite with a short timeboxed execution window

Complex applications and integrating regulatory systems

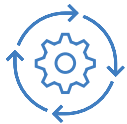Lack of industrialized test processes and Agile/CI-CD best practices

Frequent changes in the application

Lack of a single solution automation framework with a common skillset
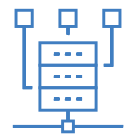
LTIMindtree Solution:

Selected Tosca for test automation and implemented LTIMindtree's Enterprise BDD with a unified, robust, and scalable framework to integrate and automate front-end and backend systems, achieving 80% regression automation penetration with 60% lesser execution time

Designed a framework to effectively manage cross-browser capabilities, mobile and API automation, and SAP integration with minimal operating and maintenance costs

Implemented in-sprint BDD as part of the automation-first shift-left approach, fully aligned with the client-mandated DevSecOps model for faster and efficient testing cycles and coverage

Implemented LTIMindtree's regression optimizer and self-healing with a clustering approach to identify duplicates and similar behavior test cases with structured risk-based testing

Implemented self-healing of automation scripts to accommodate changes in the application

Implemented TCOE model in line with the client's application or business clusters and industrialization of testing processes along with in-house tools and accelerators, SLA-based governance, and KPI-driven delivery.

Benefits:

Reduced 50% cycle time and costs with E2E automation achieved by consolidating multiple automation frameworks into a unified framework

Covered up to 60% in-sprint automation with BDD implementation to handle the stringent testing window effectively

Saved 15% to 20% of efforts by identifying similar test cases

Reduced 30% of maintenance effort with self-healing

Provided near 100% automation coverage on test data management and data lake testing on any environment

Ensured defect removal efficiency by **98%**

Delivered on or ahead of time with zero defect leakage in user acceptance testing (UAT)/production and increased productivity