CASE STUDY

Automation-led Quality Improvement,

20% Cost Reduction for Multinational Automotive Company

Client

Our client is a US-based multinational automobile manufacturer, which designs, manufactures, markets, and services a full line of cars, trucks, sport utility vehicles, and electrified vehicles. The company operates transmission plants, assembly plants, casting plants, metal stamping plants, engine plants, and other component plants worldwide. It also operates assembly facilities, manufacturing plants, parts distribution centers, and engineering centers globally.

Challenges

The client used to have several manual interventions in code review, application testing, and reporting. The earlier change management and application release process was complex. The client was looking for a solution to develop a code review process by enhancing CI/CD and test automation with a vision to increase the deployment velocity while reducing the cost of poor quality.

LTIMindtree Solution

LTIMindtree assessed the organization's current development, change management, and testing processes and recommended the below approach to overcome their business challenges.

- Automate code review and implement best coding practices
- Measure development velocity for applications
- Enhance CI/CD by implementing role-based notifications and review reports, which simplifies change management
- Minimize manual interventions needed to test application functionality and process flow
- Automate test reporting and application release process

We developed four solution pillars along with clients' Pega CoE to deliver an enhanced CI/CD process.

- **Pega App Reviewer**
    - It is built based on Selenium and TestNG features. This helps in functional, regression, and smoke/sanity testing through a dynamic framework.
    - It reduces testing effort by 30% and creates a test result dashboard that contains accurate timestamp capture, audit log, and error screenshot.
- **Code Review Tool**
    - It performs code reviews for the selected ruleset, branch, and rules in the product file. The execution can be pre-scheduled or on an ad-hoc basis to streamline the review process.
    - It ensures compliance with guardrails, improves code quality, and reduces development costs.
- **Product File Reviewer**
    - It validates configuration, properties, application, ruleset, .Jar file, and instances included in the product file.
    - It helps in avoiding redundancy and conflicts during deployment. It also reduces the cost of deployment.

- **DevOps Orchestrator**
    - It automates the application release process by bridging the gap between continuous integration, scripted deployment, and deployment pipeline.
    - It enhances CI/CD change management process along with Pega App Reviewer, code reviewer tool, and product file reviewer.
    - It improves governance and streamlines CI/CD process.

Benefits

75% of reduction in median test case execution time through Pega test automation.

Improved code quality, reduced bugs, and saved architect's review time through Auto Code Reviewer.

Saved up to **90** hours of reporting per application by eliminating manual reporting.

Improved speed, quality, and reduced cost by up to **20%** through standardization.

About LTIMindtree

LTIMindtree is a global technology consulting and digital solutions company that enables enterprises across industries to reimagine business models, accelerate innovation, and maximize growth by harnessing digital technologies. As a digital transformation partner to more than 700 clients, LTIMindtree brings extensive domain and technology expertise to help drive superior competitive differentiation, customer experiences, and business outcomes in a converging world. Powered by 81,000+ talented and entrepreneurial professionals across more than 30 countries, LTIMindtree — a Larsen & Toubro Group company — combines the industry-acclaimed strengths of erstwhile Larsen and Toubro Infotech and Mindtree in solving the most complex business challenges and delivering transformation at scale. For more information, please visit https://www.ltimindtree.com/.