



# Dynamic QA for the automotive & manufacturing industries

When a leading IT solutions company needed to dynamically update their products - without causing any disruptions to their 24/7 service - they used modern, **active Quality Assurance (QA)** methods to meet their needs within an **agile, Scrum framework**.

## BUSINESS NEED

The Client is an IT company that supports its customers with dedicated digital solutions for their enterprises. As such, their products need to work seamlessly as standalone solutions, as well as with other applications, at all hours of the day.

However, they also wanted a way to **accurately test and ensure that the high level of quality** remains high at all times, but especially when developing new features or optimising existing solutions.

As the business was working to modernise the way they work, the challenge they faced was regarding how to push

innovation forward without compromising compatibility and integration.

To ensure their work did not cause any disruption for end users, as well as to help design new products and features, a deeper level of QA was implemented to keep their range of products working at their optimum levels.

The testing workflow allowed for implementing testing features that still enabled **fast development cycles and turn around times**, both for introducing new features and improving existing ones.

## PROJECT DETAILS

The organisation quickly recognised a means to effectively test all of their products and features; as many of them are integrated with each other, it was vital to test all related services, **ensuring that a singular change in one application doesn't cause compatibility issues elsewhere**.

It was also clear that the best strategy should focus on numerous different layers. Automated testing was needed to quickly assess new changes, in addition to manual testing options, the latter of which included non-functional features such as efficiency, security, and load testing. This ensured

that, alongside basic functionality, these products were as competitive and user friendly as originally envisioned.

A **test strategy was developed in four key layers**, starting at a modular level with unit testing done by developers, before moving to unit integration testing for individual modules. This was followed up by testing entire systems, including API challenges, functional UI and automated testing, before moving to wider system integration testing, which ensured data was being correctly sent between different systems and services.

## BUSINESS BENEFITS

Through the implementation of advanced testing methods, the company gained the means to regularly and thoroughly test their products - especially when updating them - allowing them to respond and adapt significantly faster, saving money while quickening the implementation process for new features.

- Because automated testing occurred on both the frontend and backend, new features are tested in a quick, timely manner.
- A focus on continuous improvement and integration ensures features are being regularly updated, rather than taking services down for large-scale redeployment.
- The company is free to innovate and improve their products, safe in the knowledge that testing is in place to ensure quality stays at an all time high.
- They are also able to ensure their services always stay active and that their customers receive updated, competitive solutions without compromising the end user experience.

## TECHNICAL DETAILS

### SOLUTIONS

QA, Test Strategies, Behaviour Driven Development, Integration Testing, API Testing, Functional Testing, Integration Testing, Smoke Testing, User Acceptance Testing, Usability Testing, System Testing, Regression Testing

### TECHNOLOGIES

Java, Jenkins, Geb

### TOOLS

SoapUI, Selenium WebDriver, Postman

### TEAM

5 QA Specialists (3x Functional Testers, 2x Automation Engineers)

## ABOUT THE CLIENT

The Client is an IT solutions provider, specialising in products and support services for the automotive and manufacturing industries, particularly those relating to forestry and agriculture.

## ABOUT PGS SOFTWARE

PGS Software is one of the largest public listed custom software & services providers in Poland. As an AWS Advanced Consulting Partner, we specialise in Cloud projects – consulting, cloud-native development, application modernisation, & migration. Working according to agile methodologies (Scrum, DevOps, & Continuous Delivery), we create mobile & web applications as well as provide Business Analysis, Visual Design, UX, UI, & QA services to Clients worldwide. We have development & business entities in Poland, UK, Germany, & Spain.



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