

# Want to resolve Testing errors much sooner? Get up to Speed!

Use our AI-driven system to reduce  
time spent on error resolution

## Industry

Manufacturing & Automation

## Services

Independent Testing & Validation

## Technology

AI & Machine Learning

## Engagement

POC with 10 PDs



## Client profile & Challenge

### What was the challenge?

logi.cals offer multiple software products based on various technology stacks. It comprises two systems called logi.RTS and logi.CAD that implements cost-effective, powerful control platforms across different types of hardware systems.

To ensure the quality of their software components, logi.cals maintain a large, heterogenous suite of automated test cases that run regularly to validate and verify software changes. Especially when developing on the latest, cutting-edge components, it often happens that multiple test cases would fail simultaneously after the automated test cases have been executed. Although the logi.cals test pipeline allowed a basic check of log files, it is still very time-consuming to browse through all the log files in different locations to find the root cause of errors. Hardware components also had similar issues: Sometimes, they would fail without obvious reason or have connection issues. The fact that this domain is highly complex and requires a lot of know-how does not make the tester's life any easier.





## How did Nagarro help?

### Increasing the speed of software testing and error resolution

As part of its FFG-funded research project, “Advanced Intelligence for Testing” (AI4T), Nagarro has developed a complete suite of tools. These components are an important step towards a highly automated test lifecycle that focuses on automating test case execution and covers a wide range of tools, accelerators, and concepts to enhance and optimize different parts of the test lifecycle.

Nagarro implemented Sqed, a simple and efficient tool that identifies the root cause of failed test cases. Sqed aggregates, clusters, and visualizes logfiles – all in one place. It uses state-of-the-art machine learning classification techniques to assign failed test cases to clusters. These clusters help identify the error’s root cause more quickly, and the team is directed to the right place for resolution of the underlying issue, including long-term analysis of previous errors. logi.cals leverage this analysis to identify specific long-term errors over time and thus improves their applications’ quality.

### How does Sqed work?

Sqed requires only the log files from the different sources and screenshots created by the test automation framework. Sqed then parses this information from its own JSON format and creates the views and graphs required for efficient failure identification. That’s all we need to integrate Sqed into the testing landscape of logi.cals!

- The matrix view gives an overview of test cases, runs, and instances.
- The coverage graph illustrates which page objects were covered often, less often, or never.
- The clustering algorithm automatically assigns failed test cases to clusters.
- The aggregated view displays log information, screenshots, videos, and other information at a centralized location.







## Outcomes

### How did our solution add value to the client's business?

- Significant time reduction for identifying the root cause of failed test cases
- Manage test results from all test levels in one place
- With machine learning, long-term statistics of common mistakes and faster overview due to clustering of failed test cases
- Increased test transparency, revealing which tests have been covered
- Long-term analysis of frequent errors in the application





## Testimonial

“Sqeed is not just appealing due to a very attractive UI, it also creates significant value in helping us to reduce the time to get to the root cause of errors in our everyday testing work. This leaves us more time to focus on resolving the errors and improving our products for our customers.”



**Heinrich Steininger**  
CTO – logi.cals

### About Nagarro

In a changing and evolving world, challenges are ever more unique and complex. Nagarro helps to transform, adapt, and build new ways into the future through a forward thinking, agile and caring mindset. We excel at digital product engineering and deliver on our promise of thinking breakthroughs. Today, we are 17,000 experts across 32 countries, forming a Nation of Nagarrians, ready to help our customers succeed.

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