Aargauische Kantonalbank

How Aargauische Kantonalbank became a guarantor of software quality with Tricentis Tosca and Infometis

30% reduction in false negative test results

25% reduction in test case creation time

15% increase in test automation rate

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Company overview

Being the leading universal bank for private and corporate clients in the canton of Aargau, Aargauische Kantonalbank (AKB) has provided reliable financial services to over 240,000 customers for more than 100 years. AKB's strengths include personal advice that is tailor-made to its customers and regional proximity. The rating agency Standard & Poor's distinguished AKB with an AA+ rating, making it one of the best rated banks in the world.

As electronic banking platforms have grown in both sophistication and popularity, the upkeep needed to maintain these customer-facing applications has also grown more complex. Like many top financial institutions, AKB's core banking application – providing customer information, transactions and balance information – are built on Avaloq's modular banking technology platform.

To extend its customer-first approach across this growing digital landscape, AKB knew it was necessary to match the velocity of Avaloq release cycles and the complexity of its integration layer and third party systems such as the eBanking software. Increased test coverage and more rigorous testing were key to continue

delivering quality at speed, but manual testing became increasingly difficult as its banking systems kept innovating.

Business value:

- ❖ Huge benefit for the departments: client advisors can focus on their core activities

- ❖ Increase of customer satisfaction due to the high quality of AKB's applications

Challenges

- ❖ Lengthy test cycles

- ❖ Long elapse time for creating test data

- ❖ Little focus on performance testing

An opportunity to scale quality

The AKB team previously verified the software quality by manual testing which is a tedious task. With a rapidly evolving mobile banking platform and a growing list of in-house applications that support AKB customers and customer advisors, it was critical to find a scalable test automation approach. The team selected Tricentis Tosca for its low-code, model-based approach to test automation and Tricentis NeoLoad for load and performance testing.

A thoughtful approach to test automation with Infometis

With its trusted technology partner, Infometis, Petra Bohner, Team Lead for Solutions and Projects, AKB, looked to develop a scalable test automation strategy. Rather than applying a blanket approach and automating as many manual test cases as possible, Infometis and AKB ranked test cases by importance, frequency of usage, as well as technical feasibility. With guidance from Infometis, Petra and her team developed an automation plan that ensured optimal test coverage of these high-priority applications.

The team used [Tosca's Test Data Management](#) and Infometis' TAMI (Tosca Avaloq Migration Interface) application to generate stateful test data for these end-to-end banking transactions. TAMI now generates 500 test clients within 30 minutes, whereas previously the creation of one data set took approximately 10 minutes. This is an increase by a factor of 160.

Infometis helped the AKB team configure their TAMI platform, which automatically creates Avaloq objects such as money accounts, security positions and transactions. The desired data constellations can be chosen in Tosca's Test Design section. Now, the team has ongoing access to the synthetic test data needed to drive their complex end-to-end tests. To enhance maintainability, the team has built test automation modules, or building blocks, in Tosca which can be combined and reused across multiple test cases – effectively laying the groundwork for a long-lasting test automation library that can be built upon for years to come.

Revolutionizing banking system testing

Within two years, Petra and her team scaled the test automation rate at AKB from 25% to 40%, while simultaneously decreasing its formerly lengthy test execution cycle. Her automation team has grown to four members dedicated to test automation, who work alongside manual testers to ensure excellent test coverage of business requirements.

"With its low-code approach, Tosca does not require deep developer know-how to automate test cases, which helped us get team members automating as quickly as possible," says Petra. As a result, AKB's manual testers spend much less time on "tedious manual testing," Petra says, and instead focusing on the user acceptance and exploratory testing that will ensure a high product quality before releases.

Frequent Tosca test cases help establish stability of feedback requirements. Outside of major releases, AKB deploys a nightly test suite to determine the status of deployment processes, as well as hourly tests to maintain up/down statuses as an ongoing baseline, eliminating incidents in production.

Using building blocks, reliable synthetic test data, and other technical enhancements, the false negative rate has significantly dropped from 40% to 10%. Effort is now spent analyzing bugs, rather than technical issues. This allows for multiple executions of the regression set per release, detecting bugs early on and accelerating the test cycle.

With six weeks of regression testing prior to each release, AKB's release confidence has skyrocketed. Early automated test execution is one of the main reasons for a "very low rate of hot fixes in releases".

Performance testing in tandem

On top of its Tricentis Tosca and TAMI implementation, AKB also uses Tricentis NeoLoad for load and performance testing for its electronic banking (eBanking) solution. The speed of AKB's eBanking has increased after finding the ideal hardware sizing for its growing number of customers.

Results

- ❖ Structured foundation for scalable test automation

- ❖ "Extremely low" false negative rate

- ❖ 15% increase in test automation rate

- ❖ Load and performance testing for eBanking

- ❖ Early detection of defects

- ❖ Test environment stability