# TEST AUTOMATION OPTIMIZES APP QUALITY FOR DKB CLIENTS IN GERMANY

Capgemini collaborates with the DKB in-house Code Factory to transform how applications are developed and tested

## Combining banking tradition with agile development

The DKB Code Factory is a corporate startup that's part of Deutsche Kredit Bank (DKB), one of Germany's leading direct banks. Its mission is to establish DKB as the number-one choice for an irresistible banking experience. The DKB Code Factory supports the bank with innovative products, tailored precisely to the needs of internal and external customers. While benefitting from the backing of the DKB Group, the team at the Code Factory has a high degree of autonomy when it comes to testing new tools and technologies.

While the bank had expanded the development of customer-facing applications over time, the chosen method for handling test automation imposed limitations on an increasingly agile software development project. The quality assurance (QA) engineers at the DKB Code Factory started with a low-code test automation tool, which left developers out of acceptance testing. This left the team with a waterfall model in an agile world, meaning that they needed a new tool for test automation to "shift left" on the QA process.

## Overview

**Client:** Deutsche Kredit Bank (DKB) Code Factory GmbH

**Industry:** Banking and capital markets

**Region:** Germany

**Client Challenge:**

DKB wanted to reduce the complexity of its toolset and shift to agile, automated processes for testing its customer-facing apps.

**Solution:**

Capgemini worked with the DKB Code Factory team to transform the quality assurance (QA) process for Android and iOS banking applications by introducing native platforms test automation.

**Benefits:**

- The change in tools makes the QA process easily accessible for developers
- Defects and bugs can now be detected quickly thanks to regular test cycling in the early stages
- The automated testing cycles ensure better code and product quality
- The agile approach removes the bottleneck effect caused by classic, linear testing cycles
- Running the testing pipeline in the cloud increases device coverage and efficiency

## Transforming the QA process

The DKB Group selected Capgemini and decided to collaborate with its team at the Software Center in Poland based on its decades of expertise in working with leading European companies as well as its extensive pool of experts. Capgemini proposed the usage of acceptance tests in the development phase to help detect defects early on. In this way, the Code Factory could save time by preventing bugs in the QA phase and ensuring better code and product quality. Shifting left also removes the bottleneck effect caused by testing in classic linear approach.

Previously used low-code test automation couldn't keep up with the accelerated pace of change and was no longer the tool of choice for software developers. Therefore, DKB and Capgemini decided to replace it with code test development. Together, the team defined and implemented Kotlin & Espresso for Android testing and Swift & XCUI for iOS testing. This toolset supports QA and development integration, collaboration, and the implementation of the shifting left approach. Changing the toolset made it available to the developers and was carried out using the same platform-native tools with which the team was already familiar.

DKB's QA team and Capgemini were in constant contact through daily meetings and bi-annual workshops. Gradually, they expanded the test environment with the new approach until the old tests were phased out. The testing team continues to create tests that go beyond the previous scope.

Thanks to the new toolset, the Code Factory's developers are involved in test automation activities, such as Uniform repository, same coding standards, and reviews. By executing this transition, DKB and Capgemini have ensured that the bank has been able to shift away from manual tests through the implementation of automation.

Defects and bugs can now be detected early in the development phase, while automated testing cycles ensure better code and product quality. In addition, the agility of the new approach has made it easier to avoid bottlenecks, thereby reducing delays associated with testing.

## Expanding testing capabilities

The DKB Group and Capgemini are now planning the ongoing integration of continuous testing into the bank's development pipeline. More regular tests will provide greater insight into the state of projects and ensure that information about new feature deployments is readily available. In the future, the partners plan to add the ability to use a mobile device farm in the cloud to manage these processes. This would ensure better support for a wider range of devices, which would in turn improve the overall quality of applications.

> *"Shifting to automated, agile testing cycles ensures better code and product quality. Our collaboration with Capgemini was key to achieving this transformation in the QA process."*
>
> **Alexander Lehsten,**
> CEO DKB Code Factory

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