

World Quality Report

Germany

Gregory Biernat,

*Head of Portfolio Quality Assurance & Testing,
SOGETI Deutschland GmbH*

Uma Pillai,

*Senior Director,
Financial Services, Capgemini*

Summary

- There is more emphasis on AI-based testing in Germany currently. CIOs emphasize the fact that companies already have AI in place or planned for external processes.
- There is growing interest in analytics for testing. Thirty-seven percent of respondents say that they use predictive analytics for QA optimization.
- Open source tools are becoming more popular in the region as they can be easily integrated with DevOps and agile environments.

Testing and QA in Germany is about precision. The **WQR 2018-19** points toward an increasing interest in employing artificial intelligence (AI) tools for cognitive QA and predictive analytics. Companies don't want to take half measures, and are ready to invest more in testing.

Automation is also a major trend in Germany, as companies look to reduce manual testing and adopt more agile methods. For this purpose, companies are looking at AI-driven automated QA processes, along with open source tools.

Digital transformation is making further inroads, and companies are gearing up to enhance their user experience.

Artificial intelligence – German companies ready for it

Almost 53% of CIOs and IT directors in Germany state that their companies already have AI in place or planned for external processes. This is higher than the global average of 45%.

German companies are giving more emphasis to AI-driven testing. There are two aspects of this. First, as more companies adopt AI business processes they want to make sure that there is a mechanism and methodology to test these processes. Second, most companies want to implement AI to accelerate their existing testing processes.

As a result, companies are investing in cognitive QA tools and machine learning. Forty-three percent of CIOs, IT directors and QA/testing managers say that they foresee extensive usage of cognitive automation in the coming year. Further, 47% point to an increasing application of machine learning.

Robotics process automation (RPA) is also an important field for testing space in Germany. Twenty-five percent respondents say that robotics is an important research area for their business. However, experts feel that German companies may still be in early phases of RPA adoption since they are not certain about the return on their investments. They need guidance on implementing the right RPA strategy.

Companies that invested in RPA products should now be ready to develop more cognitive capabilities.

Analytics in testing?

Analytics is also taking the forefront in testing discussions. However, companies now want to expand the scope of testing. They want analytics to help them optimize test cases and take intelligent decisions on the volume of tests required for a certain coverage. Further, companies want real-time testing reports (availability of testing environments, etc.) with the help of analytical tools.

According to the WQR 2018-19, 37% respondents in Germany say that they leverage predictive analytics for QA optimization. Fifty-three percent of CIOs, IT directors and QA/testing managers say that they foresee an increasing application of predictive analytics in the coming year.

Open source tools gain the edge

When it comes to tools, German companies are inclined toward more cost-effective measures. This includes adopting open source tools and even shifting to partly cloud-based pay-per-use models.

Traditional tools are still a centrepiece of strategy, but they have certain limitations. First, they are expensive owing to the heavy research and development expenses they entail. Second, it is not easy to integrate traditional testing tools with the DevOps environment. Forty-eight percent of respondents in Germany point to a lack of the right automation tools for testing.

Open source tools are also becoming popular with German companies. They fit well with the sophisticated new testing landscapes such as DevOps, agile and cloud. In fact, open source has become even more important in the cloud environment because traditional testing tools in the cloud are too expensive.

Open source tools also help testing teams present consolidated reports of different testing activities. This is important as testing teams now work in a complex environment due to DevOps and agile. Simple reporting dashboards improve communications with business stakeholders.

Testing teams get close to customers and business

German companies place a strong emphasis on providing their customers an enhanced digital experience. User experience

(UX) testing is a priority for companies as they look to enhance the digital experience for their customers.

This raises demand for specialized skill sets, since companies look for testers who have both domain and business knowledge. German companies today also seek multi-skilled testers with both programming knowledge and business understanding. Test strategy and test design skills continue to be the most important skills for testers (according to 30% of QA testing managers and product heads). But an understanding of business processes also ranks high, with 23% of the respondents voting for it. To ensure the right user experience, companies are strengthening their UX testing infrastructure. Twenty-three percent of respondents say that they test launch an application using virtualization technologies. German companies are also testing new apps with real users before launching them. Twenty percent say that they test launch with real users and real devices.

Professional crowd testing is also an important element of user experience, but will take time to pick up, as currently only 5% of respondents say that they employ it. Nevertheless, for dedicated coverage of localizations with different languages and different coverage (e.g. devices), it is necessary to consider.

Challenges ahead

The German market still lacks QA expertise players that can carry out an end-to-end test process with integrated load and security testing processes. Automation also presents its own challenges as there is a lack of proper test data. Moreover, the rapid iterations in an agile and DevOps environment make automation expensive. If it comes to AI-driven software development, where we expect very fast and frequent SW iterations, the need for an AI-driven QA process (from requirements analysis to execution of different tests) in order to achieve predefined and changing test coverage, is obvious.

Add to that the complexity of testing due to multiple applications, interfaces and devices. All these factors together have changed expectations for automation.

To sum up, German testing and QA teams are proactive in their approach and working closely with their clients. They invest more in AI and analytics, because clients now want to harvest the benefits of digital transformation. There is also a shift in the expectations of clients as they expect their system integrators to set up testing architectures and then hand them over to them.



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If you desire more information about testing tools, please contact **Riccardo Sanna**, EMEA ADM Business Leader
riccardo.sanna@microfocus.com, PH.no: +39 346 1398055

