

WORLD QUALITY REPORT

2017-18 NINTH EDITION



Benelux

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IMPORTANT TRENDS

- The use of automation is one of the biggest trends in QA and Testing this year and it is being driven mainly by 'time-to-market' considerations.
- Agile and DevOps have brought about a change in the skills required from QA and Testing professionals and finding these types of resources, in the required numbers is one of the biggest challenges facing the QA and Testing industry in Benelux today.
- Whereas earlier there was a distinct move towards managed testing, this has gone down in the last one year and companies seem to be in-sourcing rather than outsourcing.

The QA and Testing function in Benelux is undergoing rapid change. Driving this change are trends related to agile, DevOps, automation and digitalization. In addition, organizations across the region are also struggling with issues related to test data and test environment management as well as the need for QA and Testing professionals with the skills and experience that are required today.

At an overall level, one of the biggest changes seen in the region over the last few years is the increasing alignment between IT and business. This is clearly borne out by this year's survey results as well. For instance, when asked about the objectives of their IT strategy, respondents across the region gave the highest weighting to objectives such as 'enhancing the customer experience', 'increased output', 'cost optimization of IT' and 'higher quality of software solutions'. Clearly, IT is no longer looked at merely through the lens of cost reduction but is also expected to contribute to business goals. The same holds true for QA and Testing as well. According to our Benelux respondents, the most important objectives of their QA and Testing program were 'improving the quality of software or product', 'ensuring end-user satisfaction', 'implementing quality checks earlier in the lifecycle' and 'detecting software defects before the product goes live'.

This importance given to business outcomes is also driving a number of the more important QA and Testing trends in the region. Take for example, the focus on flexibility and time-to-market. It is mainly these goals which are driving the adoption of agile methodologies in the region. According to our survey, the most popular agile methodologies in the Netherlands today are hybrid models, Extreme Programming (XP) and Dynamic Systems Development Method (DSDM), while the most popular methodologies in Belgium and Luxembourg are hybrid models, the Scaled Agile Framework (SAFE) and Feature Driven Development (FDD), however, suggests the popularity of Scrum while experts point to SAFE as a methodology that is likely to see increased adoption in the future.

DevOps is another trend that has picked up in the last one year. According to respondents, the most popular DevOps methodologies in the Netherlands were 'usage of cloud based environments', 'continuous testing and continuous integration techniques', and 'automation of the delivery pipeline', whereas in the Belgium and Luxembourg the most popular methodologies were 'usage of cloud-based test environments', 'adoption of loosely coupled architecture and/or micro-services' and 'usage of continuous monitoring with predictive analytics'.

There are also a number of challenges with the adoption of these methodologies. When asked about their challenges in applying testing to agile models, respondents across the region gave the highest weighting to lack of appropriate test environments and data. Additionally, the General Data Protection Regulation (GDPR), which will be implemented by mid-2018, has certain guidelines around data privacy that have made the task of test data management even more complicated.

Agile and DevOps have also brought about a change in the skills required from QA and Testing professionals. With testing being done in smaller, integrated teams, QA and Testing professionals need to have a much wider set of skills including scripting, tooling and programming. Technologies such as automation and omni-channel testing also require specialized skills. Finding these types of resources, in the required numbers is one of the biggest challenges facing the QA and Testing industry in Benelux today.

The biggest trend in QA and Testing, however, is automation. Rather than just cost reduction, it is mainly 'time-to-market' considerations that are really driving this trend. This focus on automation has also heightened the interest around test environment management, as organizations are searching for ways to automate environment provisioning and deployment. According to our survey, automation is most popular for activities such as the generation and execution of functional test cases and the generation of test data using test data tools.

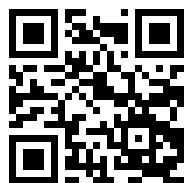
There are also significant challenges. When asked about the challenges in achieving their desired level of test automation, Dutch respondents gave the highest weighting to factors such as 'challenges with test data and environment availability', 'challenges with service virtualization', and 'not having the right automation testing process or method' while respondents from Belgium and Luxembourg gave the highest weighting to 'not having the right automation testing process or method', 'not having the right automation tools', 'automation solution not supporting mobile

testing', and 'difficulties with integrating test automation into a DevOps process'.

Another major trend in the region is related to digitalization and omni-channel testing. Social and mobile technologies are developing at an incredible pace, and the testing function needs to keep up. No surprise then, that respondents from the Netherlands gave the highest weighting to 'not enough time to test' when they were asked about the challenges in developing mobile and multi-channel applications. This was followed by 'don't have the right tools to test' and 'don't have the right testing process or method'. Similarly, in Belgium and Luxembourg, the top challenge was 'don't have the right tools to test', followed by 'not enough time to test' and 'no mobile testing experts'.

All of these trends are also having an impact on the organization structure of QA and Testing. Whereas earlier there was a distinct move towards managed testing, this has gone down in the last one year and companies seem to be in-sourcing rather than outsourcing. According to our survey, the most common models for setting up test activities in the Netherlands were 'use of Test Excellence Center', 'use of crowd-sourcing model for quick test capacity' and 'hybrid Testing Centers of Excellence (TCOEs)'. In Belgium and Luxembourg, the most popular models were 'hybrid TCOEs', 'use of Test Excellence Center', 'Captive TCOE in a build-operate-transfer model' and 'decentralized TCOE'.

In addition to the above trends, concerns about data security, increasing demands for service virtualization, and continuing concerns around security and privacy of the cloud complete the picture for QA and Testing in the Benelux region. In summary, the QA and Testing function in Benelux is going through a period of transition driven by technological change and business imperatives. In the immediate future, we are likely to see a growth in Internet of Things (IoT) testing, a re-invention of QA and Testing professionals in terms of their skills sets and a greater acceptability, and adoption of cloud.



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