

# Benelux (Belgium, Netherlands, Luxembourg)

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## Important trends

- Up to 34% respondents say between 41-50% of test cases in their organization are automated. This is far higher than the global 19% average for that range of automation.
- With 82% of IT executives citing customer experience as one of the top two IT priorities, Digital Transformation is gaining momentum in the region.
- Growth in Cloud and multi-channel portfolios has also increased awareness and heightened demand for security testing in Benelux. As an IT priority, security scores 6.4 on a scale of 1 to 7, and is ahead of the global average of just under 6.2.

Driven by a strong preference for overall quality awareness, organizations have reported a substantial increase in Quality Assurance and Testing activity in the Benelux region. Over 78% of the IT executives see increasing quality awareness across disciplines as an extremely important objective of their QA and Testing programs. Protection of the corporate image scores a close second at 77%. The figures reflect the broader IT priorities of key decision makers: more than 87% rate security and 82% rate customer experience as important. In turn, this indicates increased QA and Testing activity in the reputation-critical, customer-facing and multi-channel portfolios.

QA and Testing budgets, as part of the overall IT budgets, have leapt to 33%, an 11% increase over 2014 figures. In addition, more than 29% of the respondents in this region expect the proportion of IT budget allocated to QA and Testing to rise still further to a range of 41-50% by 2018. This is over 9% above the predicted global average for 2018. This sharp increase in budgets is also supported by allocations to new, transformational activities, which take up 54% of QA and Testing budgets in the region. At 46%, the budget for traditional application maintenance is 4% below the global average. Highlighting the efficiency of maintenance activities, the maintenance to new development ratio is a reminder of how organizations are increasingly viewing QA and Testing as an enabler of overall quality transformation and competitiveness.

Up to 58% of the executives from Benelux rate speed-to-market as an important IT priority. This is reflected in an enhanced maturity with test automation and the adoption of agile and DevOps principles. Up to 34% respondents say between 41-50% of test cases in their organization are automated. This is far higher than the global 19% average for that range of automation. More than 71% say a key driver of automation is reduction in test cycle-times, followed by better reuse of test cases and better detection of defects. However, frequent application functionality changes remain a challenge in achieving the desired level of test automation.

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SEVENTH EDITION

Further, a significant 80% of the region's survey respondents are using DevOps principles, and nearly 52% say test and business-driven development, along with continuous integration, is their preferred approach for testing DevOps. Just over 21% are using agile development methods. TMap principals, Scaled Agile Framework (SAFe), exploratory and specification-by-example testing are the most preferred approaches to testing in agile across Benelux.

There are, however, several challenges to DevOps and agile adoption — both require an organization to acquire talent with a wide range of competencies and appropriate test environments, data and tools. Half of the respondents from Benelux cite the lack of appropriate test environment and data as a barrier to testing agile; the global average facing this challenge is about 34%. Additionally, 38% say the lack of the right test tools to create re-usable test sets is a challenge, and 35% are held back by the lack of professional test expertise in agile teams.

Challenges notwithstanding, IT leaders across Benelux are committed to investing in delivery methods and the structures of testing organizations. The increasing interest in agile and DevOps principles is reflected in the preference for a decentralized Testing Center of Excellence (TCOE) model for improved agility and efficiency. A total of 64% see decentralization as a fundamental element of their TCOE plans, bringing the cost savings of globally distributed delivery models. On the other hand, nearly 33% say co-location of teams is a major challenge in setting up an agile TCOE.

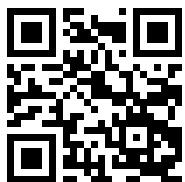
With 82% of IT executives citing customer experience as one of the top two IT priorities, Digital Transformation is gaining momentum in the region. Significant impact on related QA and Testing activity is corroborated by two metrics assessed by the World Quality Report this year. First, there has been a sharp increase in testing in the Cloud from 29% last year to 46% in 2015. Cloud brings a pay-per-use model to the cost matrix, allowing organizations to accurately tie testing spends to business dynamics.



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Secondly, proactive customer lifecycle testing is emerging as an interest area for digital stakeholders in the region. Going beyond usability testing of back-end, mobile-apps or websites, lifecycle testing involves assessing customer perception of an organization's digital engagement efforts. Consequently, mobile and front-office (customer channels) testing budgets now take up nearly a third (32%) of the overall QA and Testing budgets in the region. Compatibility and regression testing receive the most attention with 54% focusing their mobile testing efforts on this aspect. In addition, the complexity of multi-channel applications using analytical and big data tools to interpret customer perception has increased the demand for performance and chain-testing using Artificial Intelligence.

However, testing customer experience with multi-channel applications has its own set of challenges. Up to 55% of IT executives interviewed for the research say the implementation or usage of test tools for customer experience testing is a major challenge in the region; much higher than the global average of 43%. Further, 19% cite challenges with testing integration services, including public and private cloud. And, from the outset, establishing the environments for customer experience testing is a challenge, cited by 48%.

Growth in Cloud and multi-channel portfolios has also increased awareness and heightened demand for security testing in Benelux. As an IT priority, security scores 6.4 on a scale of 1 to 7, and is ahead of the global average of just under 6.2. In the public sector for instance, organizations have committed to new regulations and certificates (SSD norms), which require change management to accommodate certification, and verification and validation to prove compliance.

Much in line with the global average, just over half of respondents (51%) carry out security assurance activities in the development or coding phase. Interestingly, cloud-based security testing is not actively pursued, although testing in the Cloud, in general, has seen increased adoption in the region. Nonetheless, just over a quarter (26%) of the respondents interviewed say they carry out security testing in the Cloud.

Another interesting trend reflects the region's preference for restricting security testing activities to internal teams. A high 50% prefer an internal security testing team with its own tools. However, with 37% of respondents opting for managed applications security testing, the use of external support is an approach that's also fast catching up.