

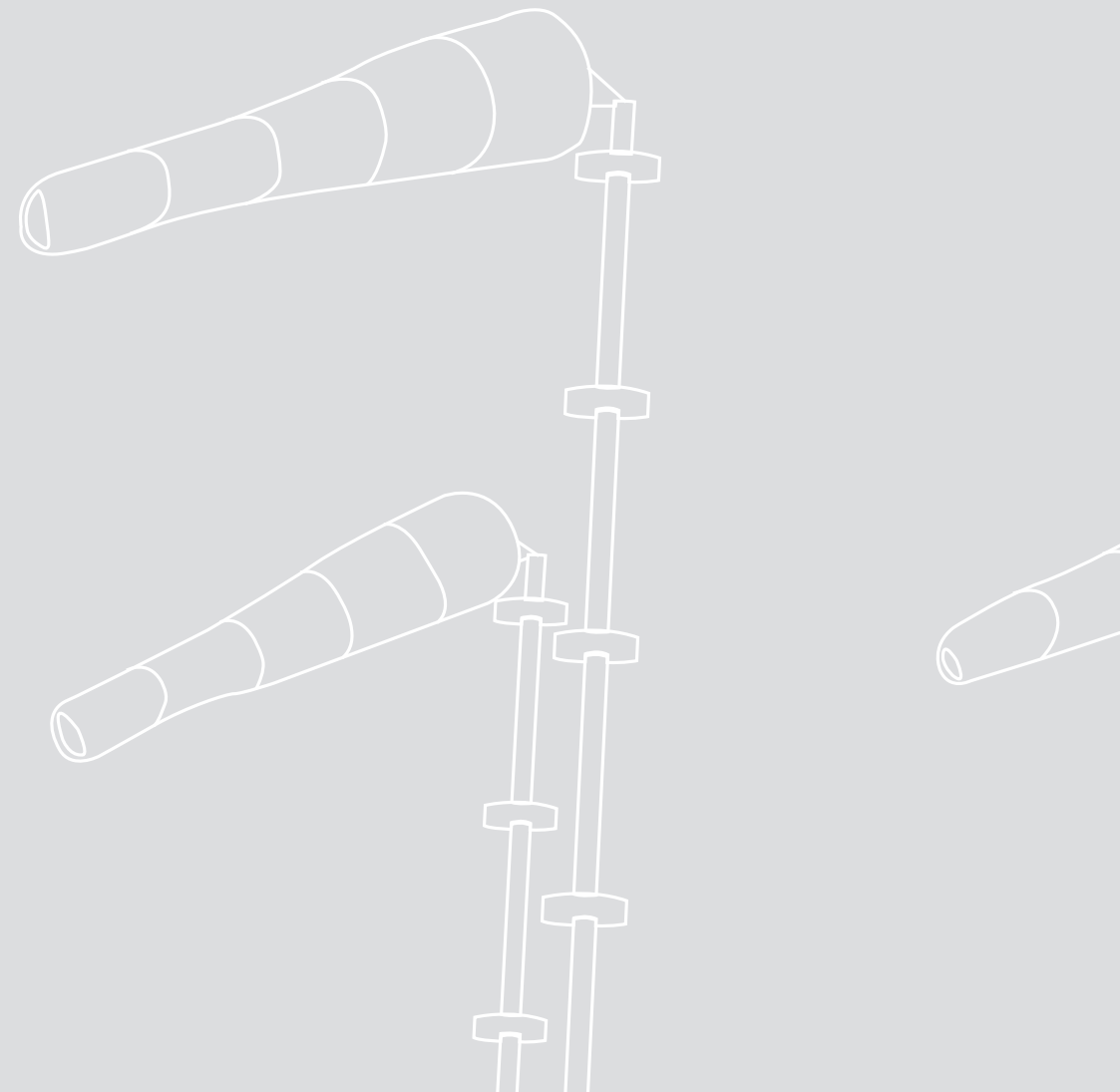
SwissQ Testing Trends & Benchmarks Switzerland 2012



Software Testing Trends Switzerland 2012. Where are we now – where are we going to?



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For the fourth time in a row, SwissQ questioned the Swiss IT community about current trends and benchmarks. Not only did we receive overwhelming feedback from over 300 participants, we also personally interviewed many IT decision makers from various companies, segments, and regions about the current testing trends. The outcome is a representative overview of the most important trends. For the first time this year we are not only presenting a trends and benchmarking analysis of Software Testing, but are also taking a look at Requirements Engineering and Agile. The corresponding reports will be published separately to highlight their importance.

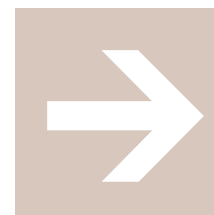
The group of participants mainly included test managers and line managers, but also test engineers and project leaders working in the area of IT, finance, insurance, manufacturing, or in public companies. For the first time this year we put a special focus on Agile and Requirements Engineering and have thus enhanced the group of participants accordingly. A quarter of the participants of this survey, therefore, work in Requirements Engineering. In the end, these 300+ questionnaires served as the basis for the analysis and interpretation of the current state in the year 2012 and the future development.

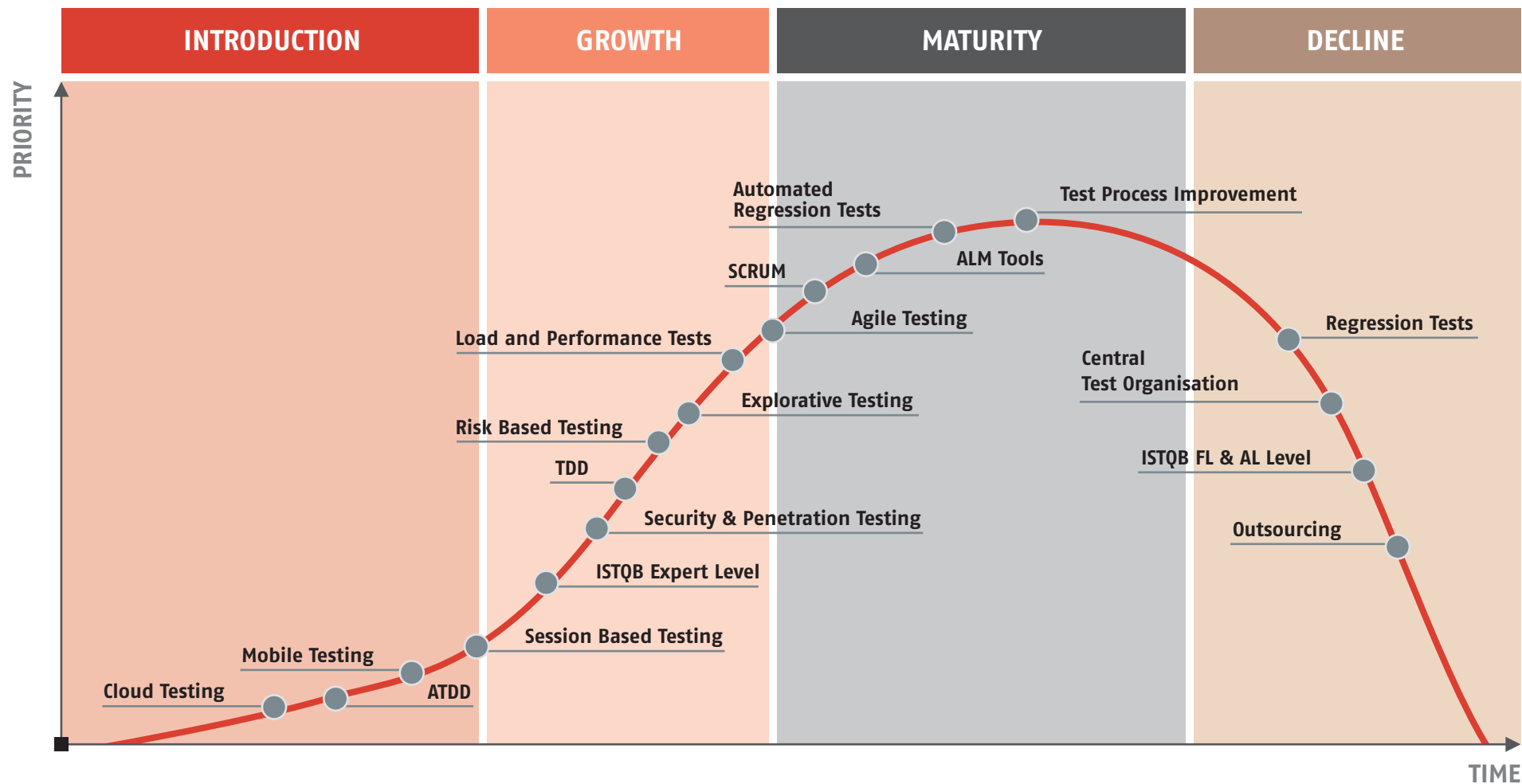
The benchmarks depicted in a multitude of informative charts and diagrams form the backbone of this report and allow you to position your company in comparison to others.

As before, we use the SwissQ Trend Wave® to show the evolution of the main topics. It shows in four phases how single trends will most likely develop over time and in turn allows you to appraise the influence of the trends on your business.

The same as last year, SwissQ offers companies the opportunity to present the SwissQ Testing Trends & Benchmarks to their employees. The target audience consists of members of the testing community, software engineers, project leaders, requirements engineers, and the management. The presentation allows you to take an outside look at the current changes, as well as to boost the motivation for and significance of testing, and profit from ideas for further developments.

Having said this, we hope that the present Trends & Benchmarks will inspire you to actively pursue new challenges and take the actions that best suit your business.





INTRODUCTION – This topic has been identified and some companies are deploying initial implementations. However, it cannot be foreseen whether this trend will positively advance and whether testing will be considerably influenced.

GROWTH – This topic is more and more accepted and many companies are considering it. The first tools are being developed and consultancy firms offer services for the same. Often risks are associated due to limited implementation experience.

MATURITY – Most companies are working on the implementation or have already completed it. The knowledge of this topic is often widespread, resulting in sub-topics being raised.

DECLINE – The topic has already been implemented by most of the companies, with the exception of individual latecomers. Often, there is no more added value in acquiring further knowledge in these areas, since it will become obsolete shortly.

The aim of the trendwave is to show what topics will influence the testing discipline as well as the people and the organisations dealing with it. It thus helps readers to specifically prepare for, and actively participate in these changes.

The technologies that changed the consumer market in the last couple of years – smart phones and tablets, social media, cloud, and highly topical, voice control – are increasingly being used in the business world as well. The new information and communication channels accompanying this development lead to higher consumer expectations as the following example illustrates:

During the après-ski break, we started a heated argument about the need of a separate ski theft insurance. I got my smart phone and opened the app of my insurance company to check my current coverage. I was startled to realize that I wasn't insured against ski theft! I immediately asked Siri to find a provider and took out a policy online. I was lucky I did that because I just saw a guy in a yellow ski suit taking off with my skis!

Such seemingly utopian scenarios are on the verge of their break through today. They are not only challenging business analysts and software engineers, but testing as well will become a more complex and costly endeavour.

Many companies have recognized these trends and are already including them in their current projects and products, others are gaining experience and building up more knowledge. Most businesses though still think that it is too early to deal with the subject but should be careful not to miss the opportunity to catch up on it.

The current focus remains on two areas that have continued to gain significance over the past few years, one of them being Agile Testing as most of the participants of this survey are at least partly working with agile methods. The second area is Requirements Engineering which is also directly involved in one of the biggest challenges in testing: the generally poor quality of requirements. Be it coincidence or fate, the parallel development of these two subjects can only be of advantage to us.

We can therefore assume that Mobile Testing and especially Cloud Testing for many businesses and software testers will only appear on the radar once the biggest obstacles in the transition to Agile Testing and the improvement of the quality of requirements are overcome. Furthermore, test automation – still not on a satisfying level – also remains in the focus.

Still, it is conceivable that the “mobilization” of IT will increase rapidly in the near future, so the question to pose is: shouldn't we jump on the bandwagon right now before catching up will be too cost-intensive and time-consuming?



1

More than **half** of the companies apply agile development practices. Thereby **84.5%** of the respondents use Scrum as their preferred agile method.

2

New technology and process driven processes like **mobile testing**, **agile testing** or **session based test management** are (still) getting little attention.

3

The **focus of education and training** has shifted towards requirements engineering and agile, closely followed by the ISTQB advanced level certifications.

4

While 40% of the respondents rate the maturity level of the **testing process** as **good or excellent**, 75% of the respondents rate the maturity level of the requirements engineering as medium or less.

5

Not surprisingly, **poor requirements** are mentioned as the biggest challenges in software testing, Followed by late involvement of the testers.

6

The **interdisciplinary collaboration** between business analysts, software engineers, and testers gained further importance. But the significant mind shift hasn't happened yet.

7

The **most investments** are made in **test automation** or the creation and extension of regression tests. In contrast there are just **marginal** investments in hiring of new testing employees.

8

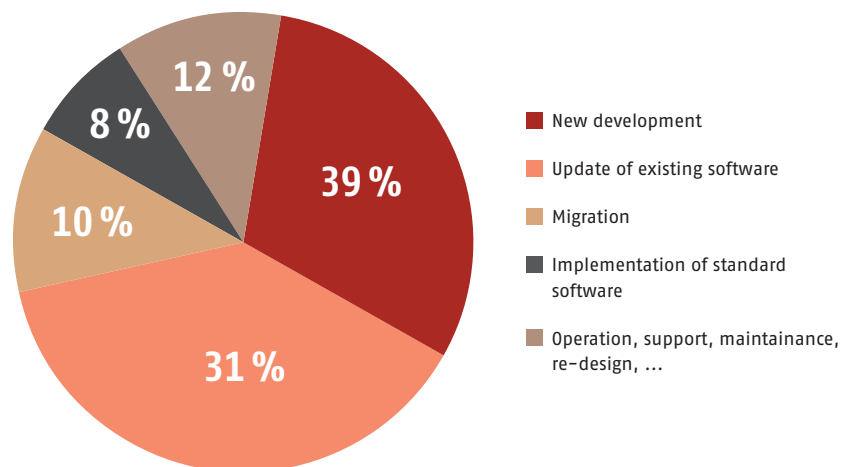
Even though 80% of all participants automate their functional tests, almost half of them **automated less than 10%** of all functional tests. This is a step forward though, as last year almost 2/3 of the participants had automated less than 10%.

9

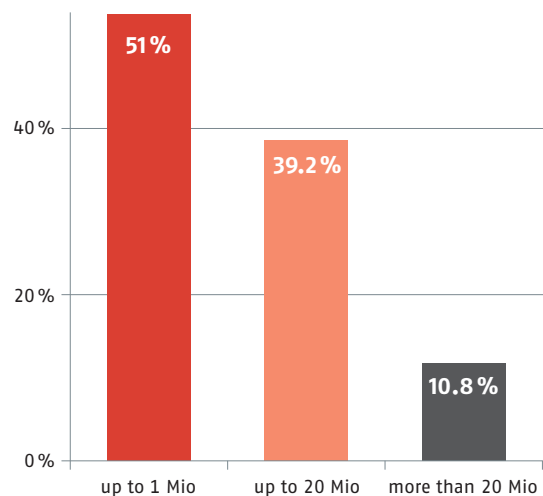
The trend towards **integrated tool solutions** has increased, particularly thanks to HP ALM and partly MS TFS. Tools covering only one discipline find themselves in a difficult position.

Project Type

70 % of all projects are new developments or updates of existing software.



Project Size (in Swiss Francs)



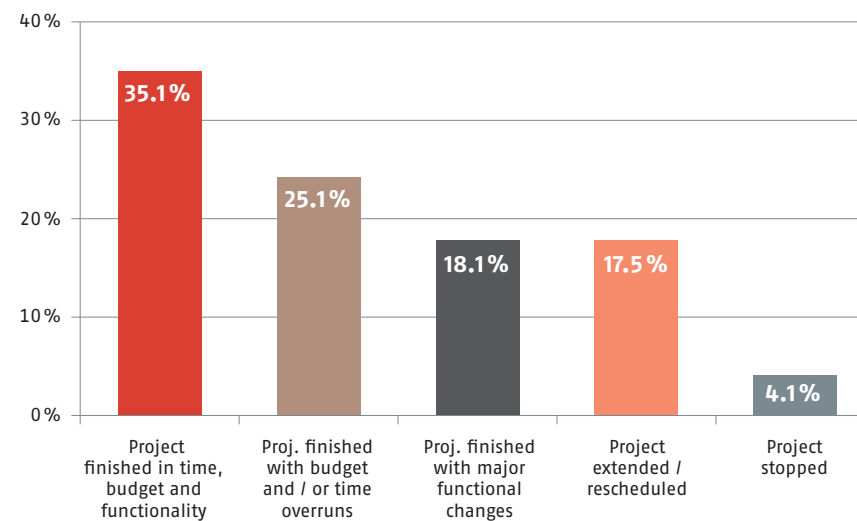
> 50 %

of the respondents describe the **starting situation** of their projects as satisfying or insufficient related to

- Estimation
- Planning
- Definition of requirements
- Realistic expectations

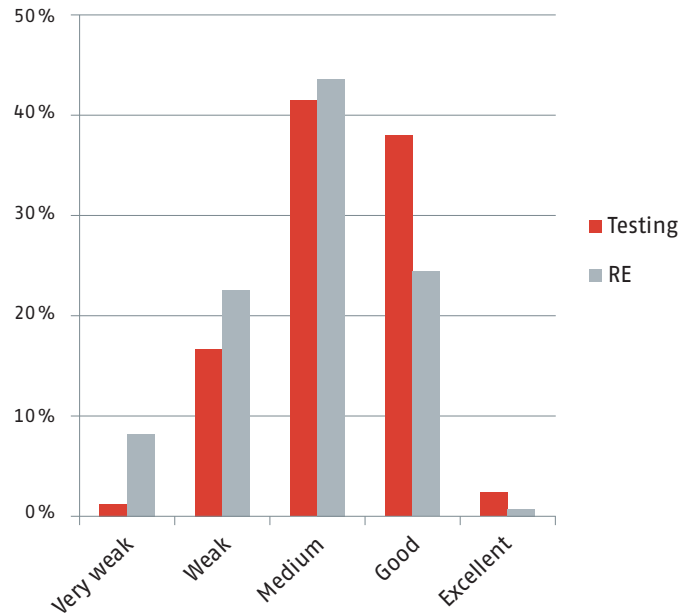
Project Outcome

Just over a third of all projects are finished with the expected functionality, within the expected timeframe and within budget.



Maturity of Test Process

In average the respondents rate the maturity of their companies testing process as medium or good. This rating has remained constant in the last years. It's a contrast to the maturity in requirements engineering (RE) which is rated substantially worse.



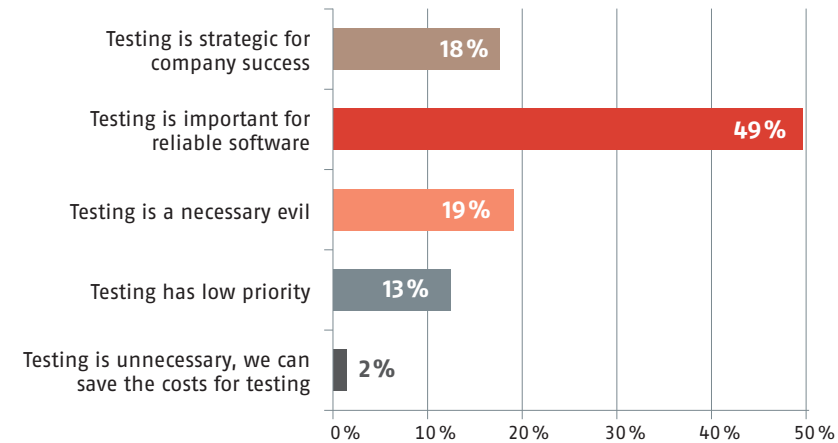
40%

of the respondents rate the maturity of the **testing process** as good or excellent.

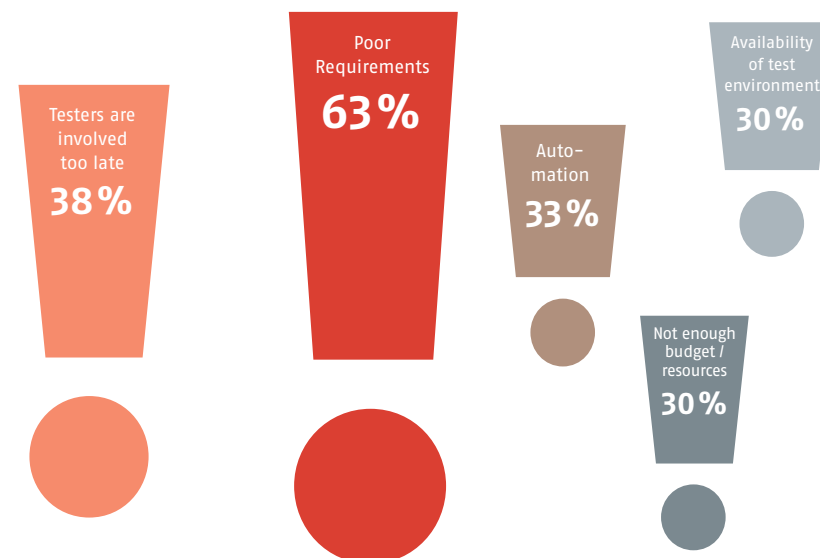
75%

of the respondents rate the maturity of the **requirements engineering** as medium or less.

Reputation of Testing

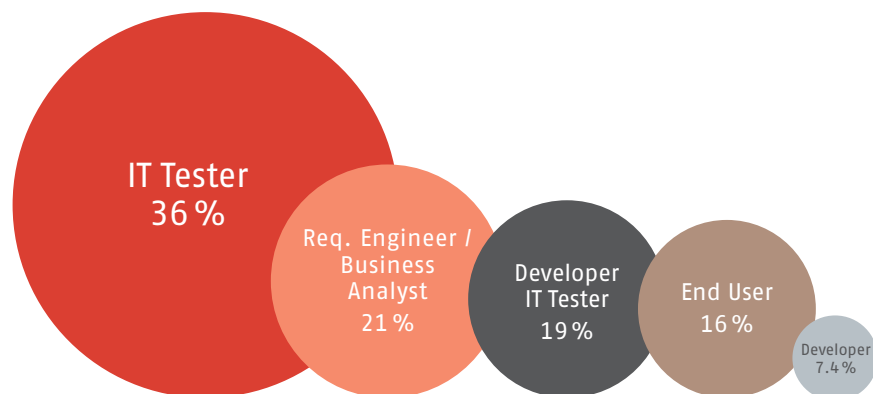


The Biggest Challenges

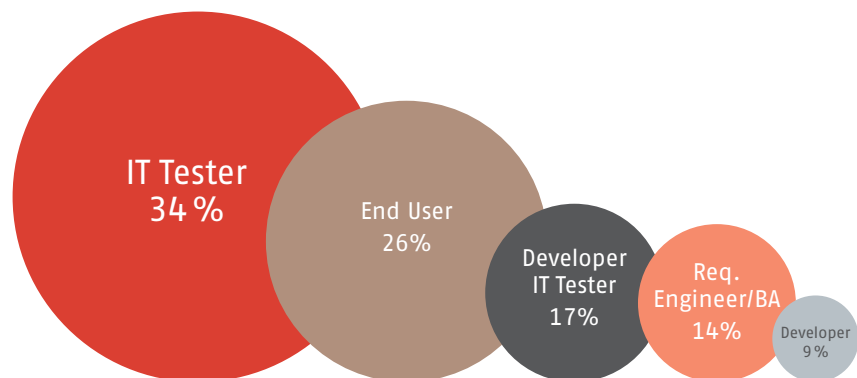


Who Performs Testing Activities

Test Case Design



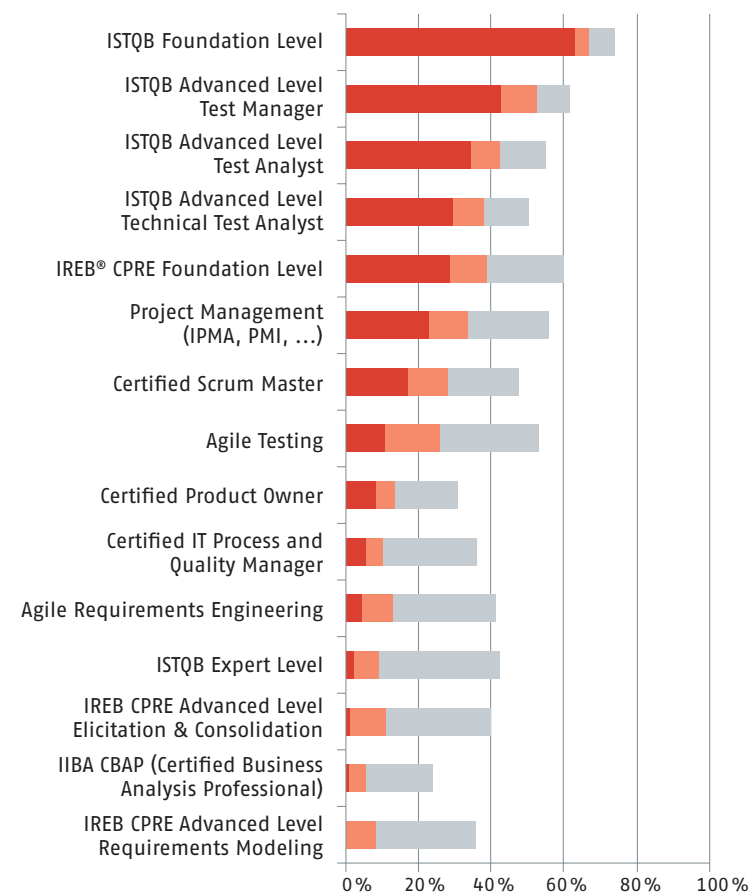
Test Execution



Education

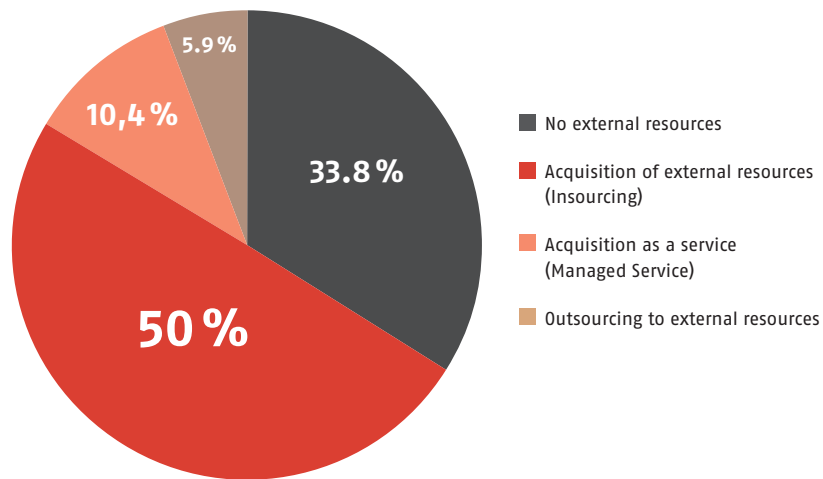
The focus of the employees training is moving from ISTQB certification – which most of them already have – to the topics of requirements engineering and agile.

■ I already have it ■ It is planned ■ In the not too distant future



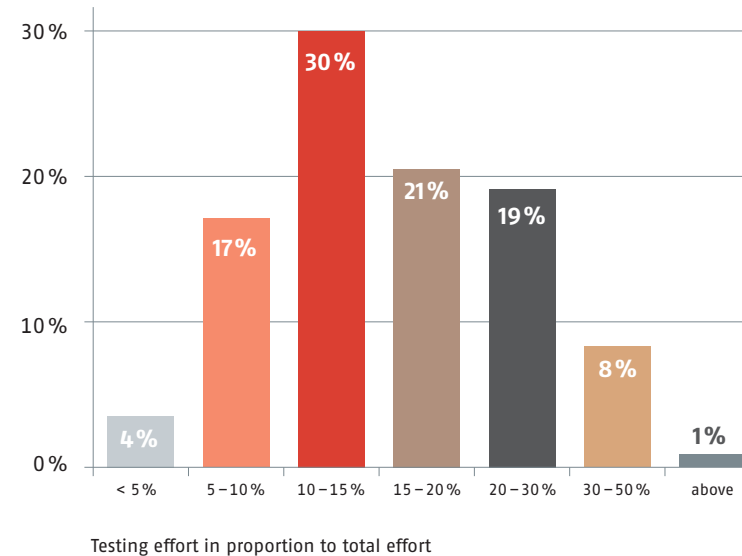
Use of External Resources

The use of external resources in testing slightly increased compared to 2011. The external resources are mostly used in-house. Outsourced testing stagnates compared to Managed Service (e.g. automated regression tests) which have expanded.



Testing Effort

The variance of the testing effort is still wide. By average the testing effort in proportion to the total effort is about 15 % to 20%. In proportion to the development effort this value is more than 50 % (not represented in the graph).



Investments



Investments are increasing

- Test automation
- Creation and extension of regression tests



Investments remain constant

- Test environments
- Test management tools
- Test data management
- Training and education
- Structured testing process / methods

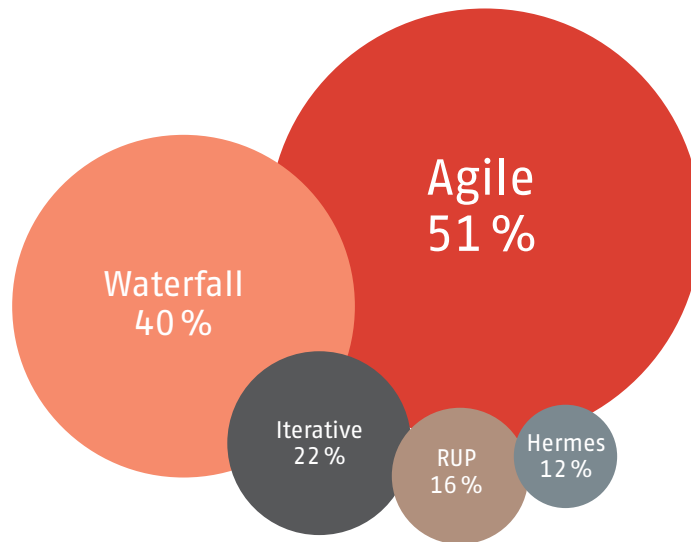


Investments are decreasing

- Outsourcing testing activities
- Hiring new testing employees

Software Development Process

More than half of the companies use agile processes. Many of them are using a combination of different development processes e.g. agile in combination with waterfall.



84.5%

of the respondents use **Scrum** as their favorite agile method.

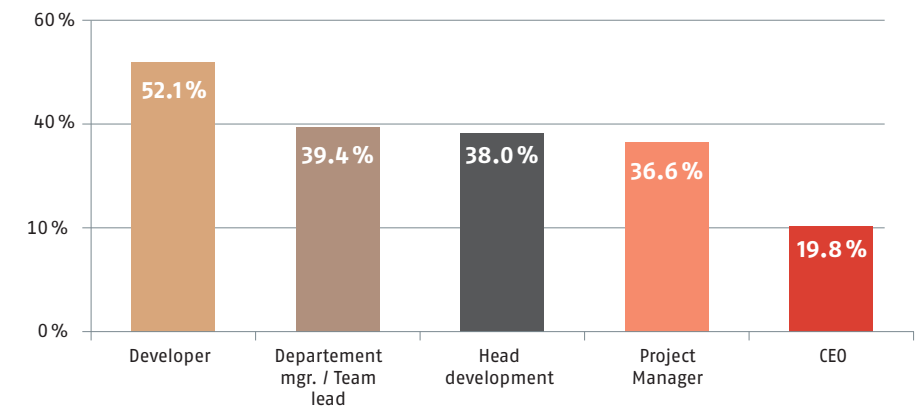
SwissQ Agile Trends & Benchmarks 2012

There are many additional charts and details in the SwissQ Agile Trends & Benchmarks Report 2012.

Implementation of Agile Methods

Drivers of Agile Methods

Agile processes are mostly promoted by the directly involved people.



Reasons for Agile Methods

Accelerate Time-to-Market

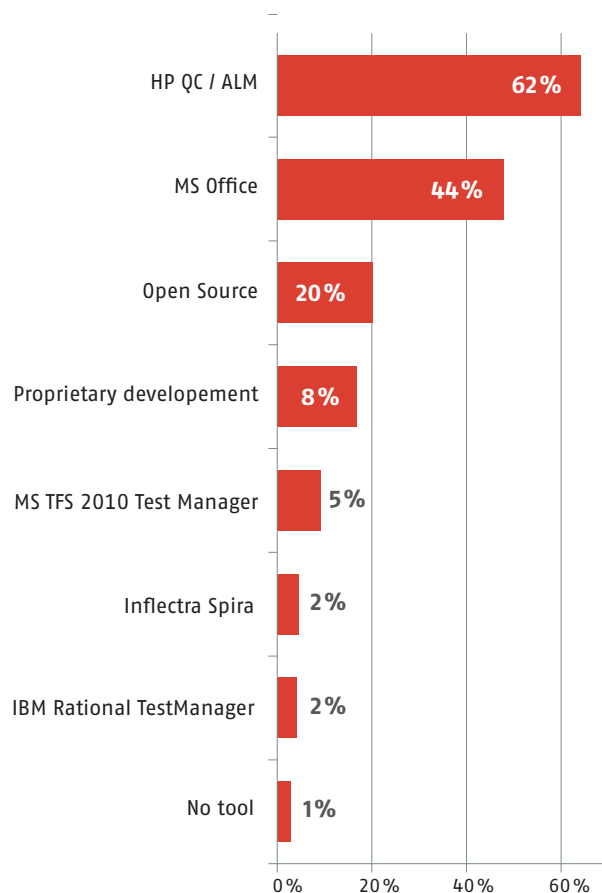
Better handling of changing priorities

Productivity

Collaboration between IT and business

Test Management Tools

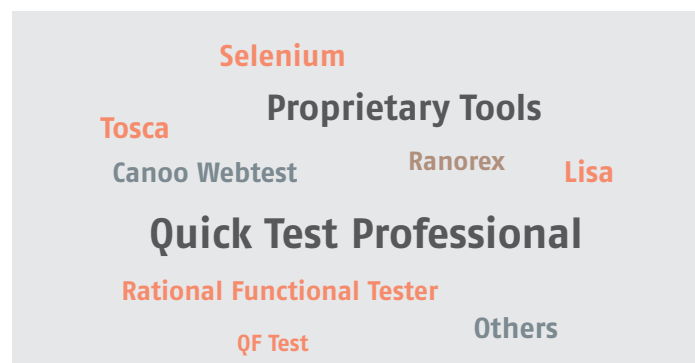
More than 60 % of the respondents work with HP QC (since version 11 the name is changed to ALM). Many of them are working with more than one tool, mostly in combination with MS Excel or Word. MS Test Manager has a growing share, due to its tight integration with MS Team Foundation Server.



Test Automation

Tools used

The market leader by far is HP Quick Test Professional, followed by proprietary tools. All in all the market is highly fragmented. Almost 30 tools were mentioned.



80%

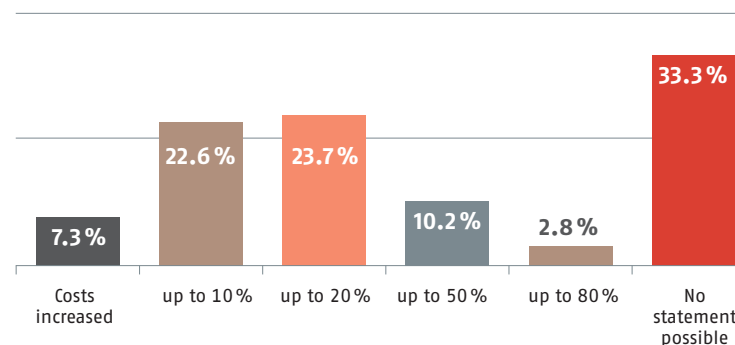
of the respondents **automate** their functional tests.

48%

of the respondents have automated **less than 10 %** of their functional tests. In 2010, the value was 60 %.

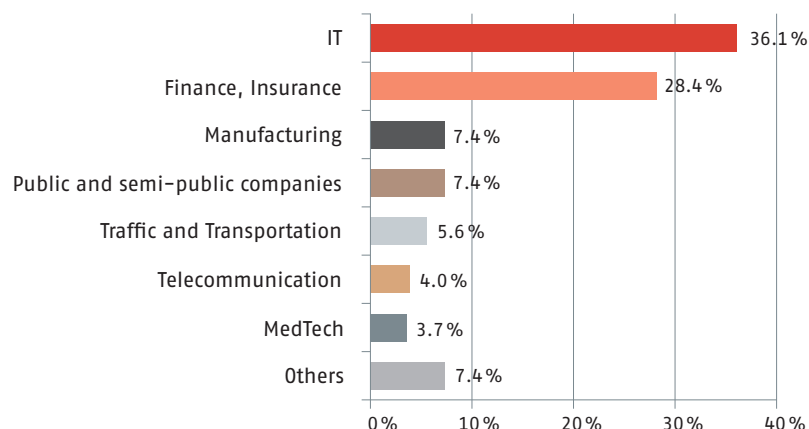
Cost Savings by Test Automation

Most of the respondents expect low savings by test automation. In one third of the cases giving a statement to this question was not possible.



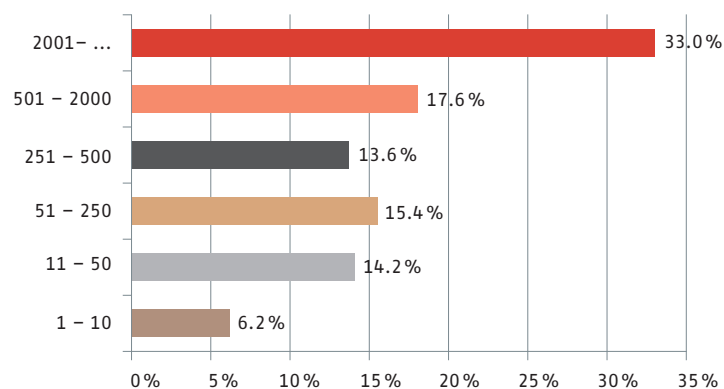
Industrial Sector

More than 60 % of the respondents work either in the IT or in the financial sector. Compared to the last years their proportion has decreased, demonstrating that the subject has arrived in other industries too.



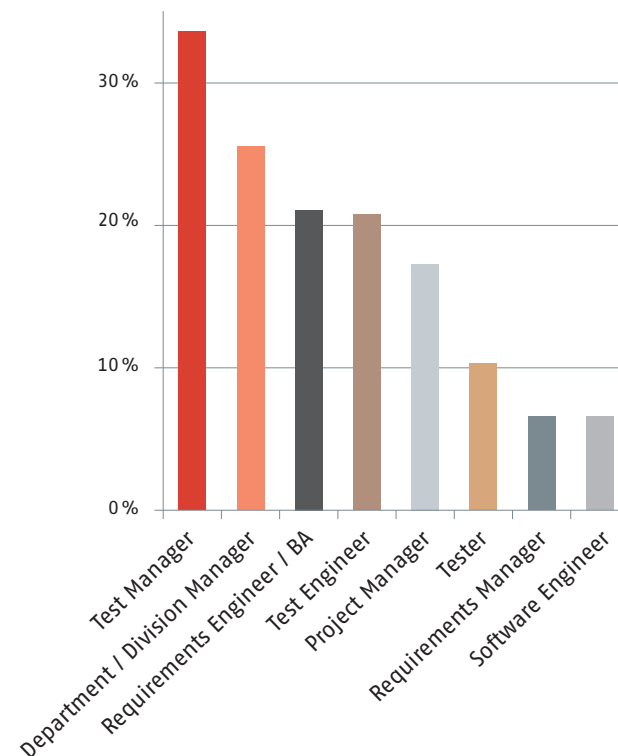
IT Employees

A bit more than half of the respondents work in companies with more than 500 IT employees.



Responsibilities

More than 50% of the respondents describe their job with more than one role. Especially test managers don't work 100% as test managers, but also take responsibility for other roles.



60%

of the respondents mainly work in **projects**.

33%

of the respondents are **line managers**.

Do you want to know more? You can download the detailed report with further analyses about requirements engineering from www.SwissQ.it

SwissQ Requirements Engineering Trends & Benchmarks 2012

There are many additional charts and details in the SwissQ Requirements Engineering Trends & Benchmarks Report 2012.

Future Investments



> 80%

of the projects check their requirements for **operational accuracy, implementability, and completeness.**

36%

do **not** check requirements for their **need.**

2/3

of the respondents allocate **less than 1 day** for stakeholder analysis.

Do you want to know more? You can download the detailed report with further analyses about agile trends from www.SwissQ.it

SwissQ Agile Trends & Benchmarks 2012

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Only

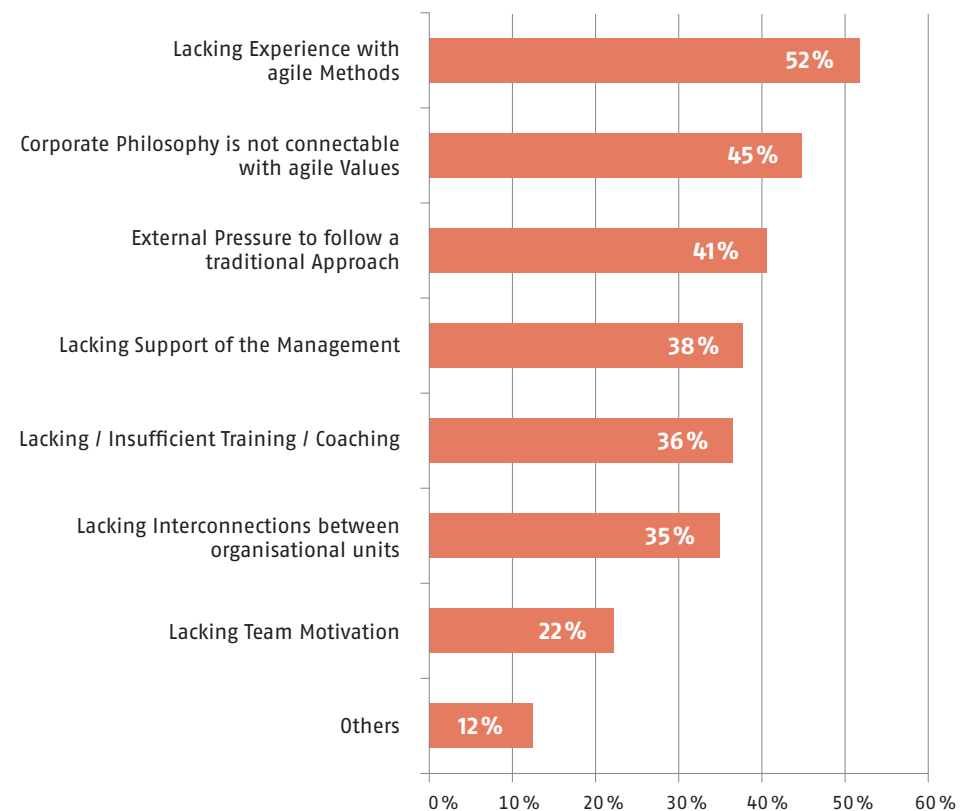
40%

are content with the **implementation** of their agile approach.

1/3

of the respondents have 2 or more years experience with **agile methods**.

Main Reasons for the Failure of Agile Projects





ABOUT US

SwissQ supports its clients in the development and implementation of IT-solutions and assures that the end users get the functionality they really need. This is achieved by unambiguously determining requirements and risk-based testing the implementation.

Our vision is to improve the added value of IT through requirements management and software testing. Along with providing high-quality services, we pursue this vision by establishing independent platforms, like the Swiss Testing Day and the Swiss Requirements Day, which facilitate the exchange of know-how and experiences.

In addition to that we help bright minds to expand their knowledge in our trainings.

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