



SQS Compact

Software-Testing 2008

Facts and figures in brief

1 | Theory and Practice

"It is recognised today just how important software testing is to success, as part of the software engineering process. At the same time, though, there is a considerable lack of transparency regarding the resources devoted to it. The companies' test strategies are also frequently incomplete and take very different forms."

Source: Pierre Audoin Consultants (PAC):

International Software Testing Survey, Cologne/Munich 2008

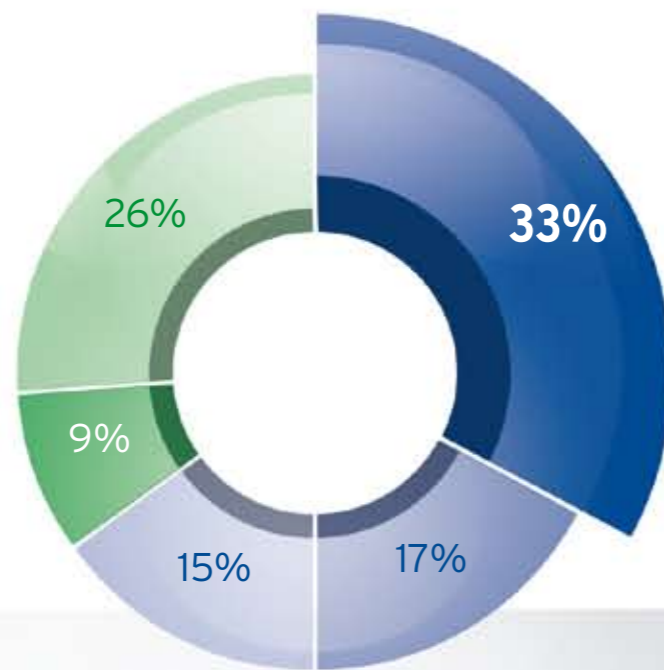
There are few fields of work in information technology where aspiration and reality are so far apart from each other than in software testing and software quality assurance (QA).



For most companies, testing is a vital part of investment in the product¹

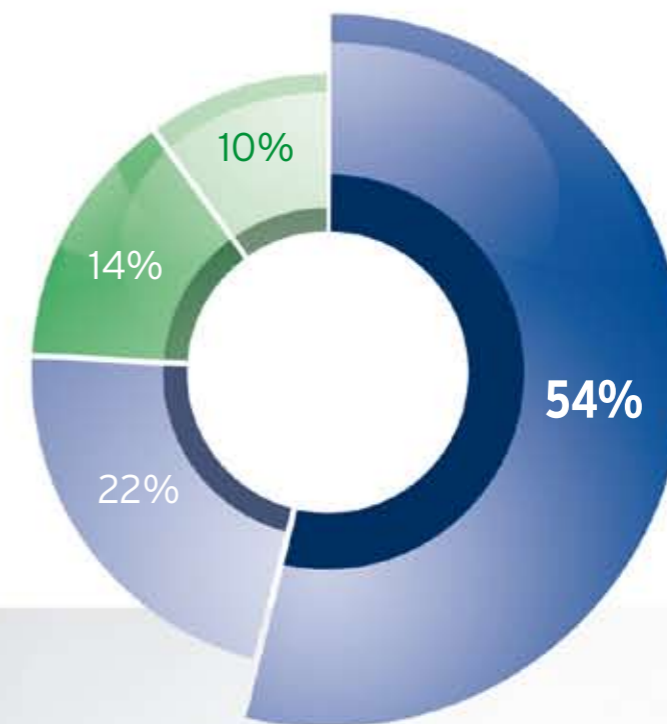
The majority of companies do not know what proportion of their IT staff spend part of their time working as testers

- Testing is a vital investment in the product
- Testing raises the cost efficiency of software production
- Test tools create true added value in the company
- Testing is a necessary evil
- Other/no response



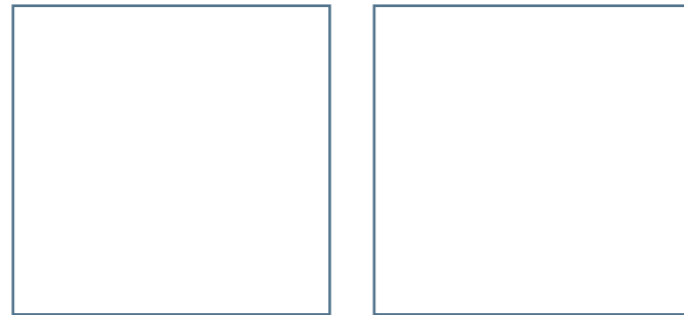
Source: PAC Software Testing Study 2008

- Don't know/no response
- 10 to 20 per cent
- 21 to 40 per cent
- Over 40 per cent



Source: PAC Software Testing Study 2008

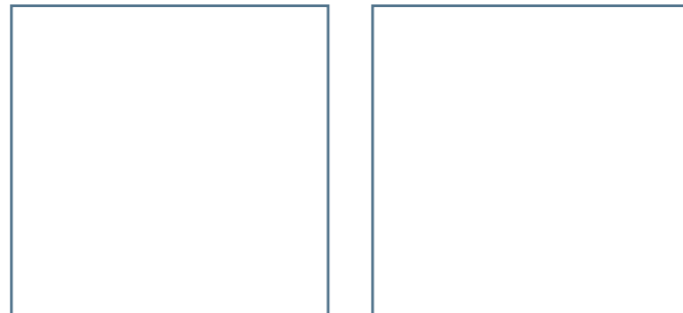
¹ Percentages may not add up to 100% because of rounding



It is not only the deployment of personnel, however, about which most companies do not have clear figures. Also, half of the management experts and technical specialists questioned in the survey did not provide any information about their own company's test strategy or described their procedure as inconsistent.

"A lack of standards in software QA increases costs, as the absence of standardisation means that experience cannot be passed on to be used in future projects. We are convinced that companies with largely standardised IT processes achieve greater economic success. The number of employees specialising in testing and quality will therefore continue to rise. They are able to prevent errors and resultant downtimes before software is delivered to the customer. This form of quality assurance at an early stage is appreciably more cost-effective than errors detected late which have to be corrected after the event."

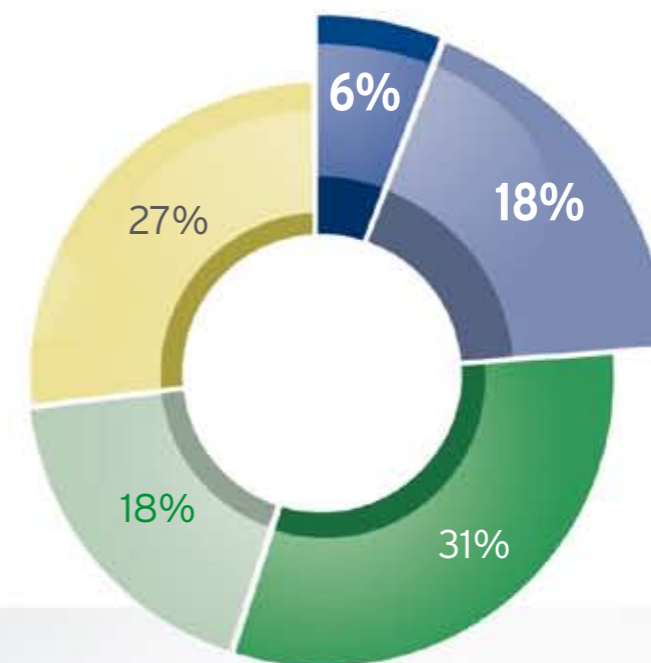
Kerstin Dirtheuer, analyst with Pierre Audoin Consultants (PAC)



How many of the delivered applications had a negative impact on the customer?

This increasing standardisation will therefore also continue to advance because many companies have a multitude of different quality deficiencies to remedy. More than a third, for example, talk of poor internal time to market for their IT products because test times are too long. Even more damaging to business are systems that have already been delivered to customers but still contain errors.

- Most
- Some
- Few
- None
- No response



Source: PAC Software Testing Study 2008

It is a proven fact that systematic and standardised software testing is capable of reducing such quality deficiencies and cost drivers.

Cause and effect

1. Companies that employ professional software testers either full time or part time complain more rarely that they are forced into additional financial expenditure because of poor quality of software.
2. Companies which describe testing as being crucial to success suffer more rarely with problems of testing being too slow or too expensive.
3. The more that higher management understands the significance of software testing, the less often their IT systems suffer from critical errors on delivery.

Source: Pierre Audoin Consultants (PAC): International Software Testing Survey, Cologne/Munich 2008

Those companies that want to professionalise their software QA can now let themselves be guided by a number of key de facto standards.

Basic standards of software testing

1. Development teams and test teams work independently of each other.
2. Quality assurance/testing is organised and budgeted for separately.
3. Testing is automated through the use of special tools.

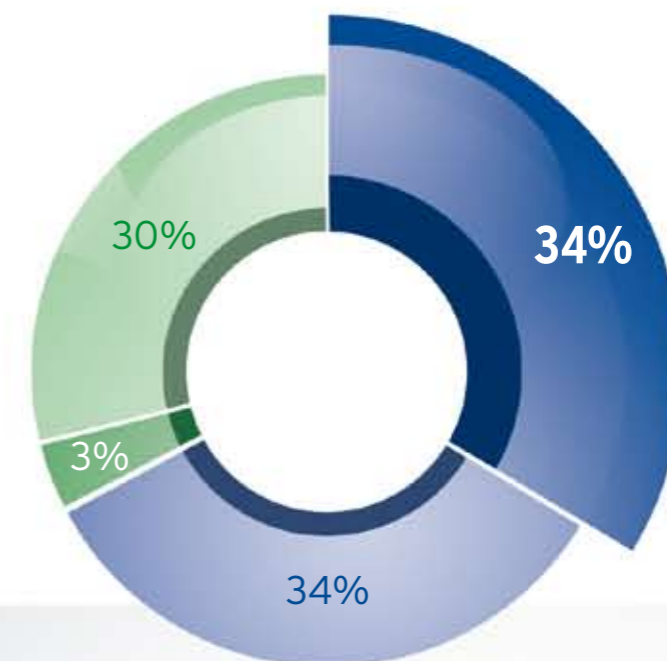
Source: SQS Software Quality Systems AG

2 | The Market



Will your budget for external testing grow?

- Will grow
- Will stay the same
- Will shrink
- Don't know/no response



Source: PAC Software Testing Study 2008

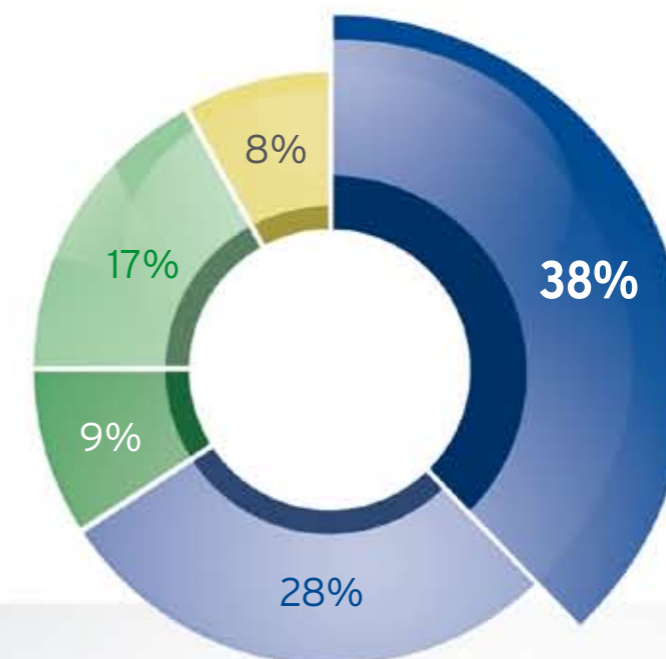
The market for software testing is primarily a market for in-house service providers. The majority of test activities take place within the companies themselves. That said, the budgets being spent on external service providers are growing.



The majority of companies budget for software testing separately

Two thirds of the companies always or sometimes budget for software QA separately, as an independent component of the total development budget. In some cases, though, there are considerable differences in the responses from certain countries: whereas in the Benelux countries (61 per cent) and in the United Kingdom, Ireland and South Africa (53 per cent) the majority always budget separately, in France (7 per cent) and Italy (2 per cent) these are only small minorities. Germany, Austria and Switzerland (38 per cent) are in mid-table in this respect.

- Always separate
- Sometimes separate
- Never separate
- No specific allocation
- Don't know/no response

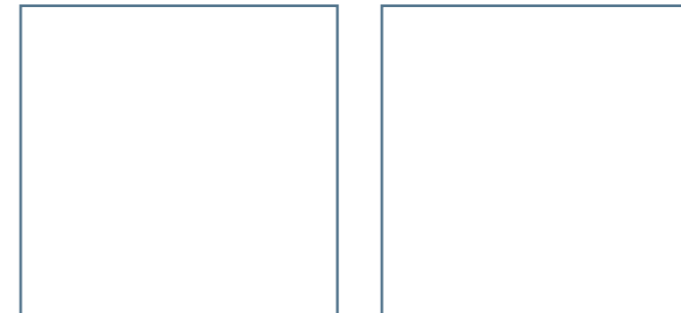


Source: PAC Software Testing Study 2008

3 | Test-Outsourcing

The (offshore) outsourcing of quality assurance is still in its infancy—with notable differences from one country to another. Whereas in Ireland, South Africa and the UK, for example, 14 per cent of the companies have already gained experience with test offshoring, only 1 per cent have done so in Austria, Germany and Switzerland.





“Outsourcing is seen above all as a means to reduce costs, while offshore services are often primarily associated with communication breakdowns and loss of control. We therefore expect software to be divided into different types: less critical components are more likely to find their way to offshore testers, while more business-critical systems will continue to be tested mostly in-house.”

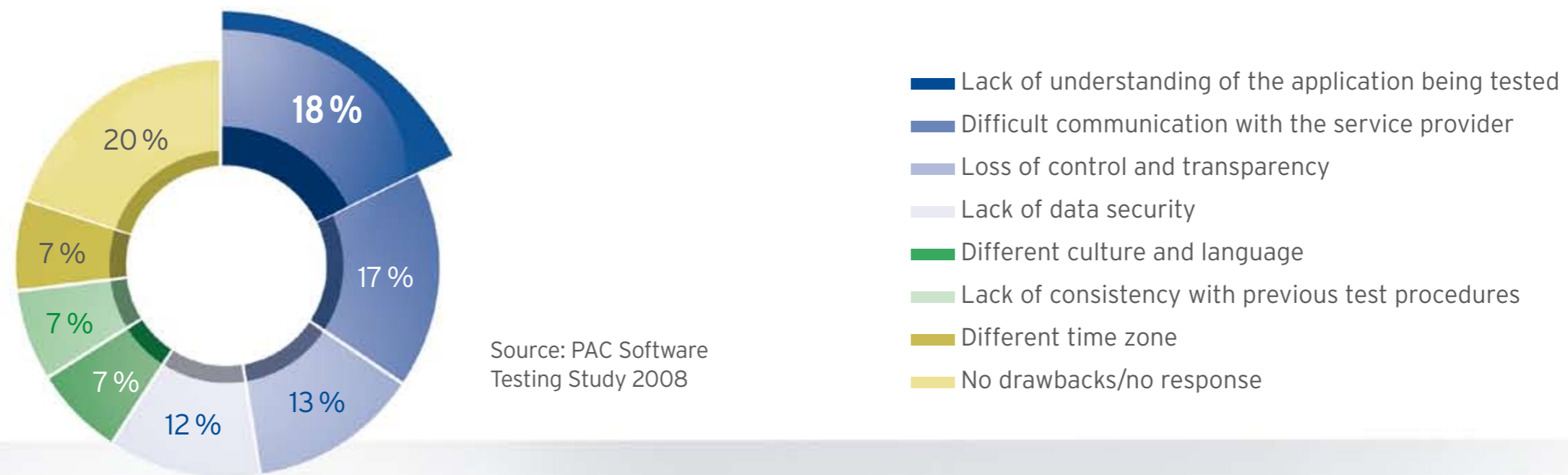
Kerstin Dirtheuer, analyst with Pierre Audoin Consultants (PAC)

“Above all IT projects in which the requirements remain relatively stable in the course of execution can be transferred to nearshore or offshore service providers. Finally, the size factor has an important role to play: small projects, or those with a restricted time frame, are hardly likely to achieve the advantages of outsourcing, which tend to be medium- or long-term. Projects should be designed to run for several years and cover extensive applications.”

Rudolf van Megen, CEO of SQS Software Quality Systems AG

What do you see as the principal potential problems of offshore testing?

The benefits of offshore testing are mainly considered to be cost reductions. Issues surrounding communication dominate among the inhibiting factors.



4 | The Tools

The analysts from PAC confirm, on the basis of numerous analyses, that communication problems often greatly impede the productivity of offshore projects. It is generally difficult in these to determine the total cost of ownership. Consequently, PAC assumes that new sourcing models will come into use for communication-intensive software QA in particular.

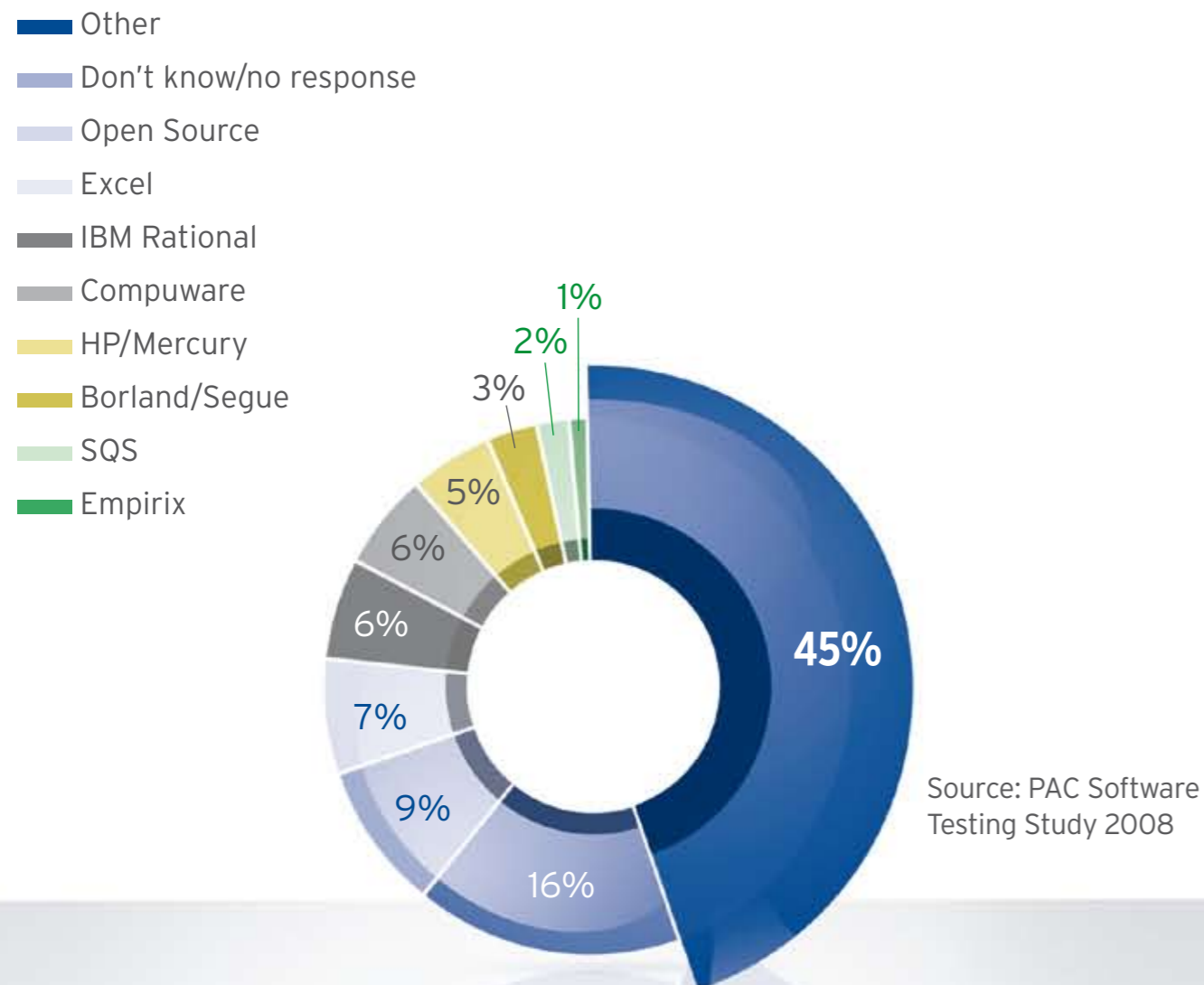
Success factors for the outsourcing/offshoring of software testing

1. The test service provider offers onsite and offshore services from a single source.
2. The test service provider leaves important control functions in the hands of the client.
3. The test service provider aims for an onsite-offshore ratio of no more than 30:70 when distributing the tasks.
4. Offshore teams are proficient in the mother tongue of their respective clients.

Source: Pierre Audoin Consultants (PAC)

The market for specialised software testing tools is far from being exhausted yet. The use of standardised special tools is limited—whether they be solutions from large and versatile providers or products from specialists focusing specifically on test tools.

Which test tools are used in your company?

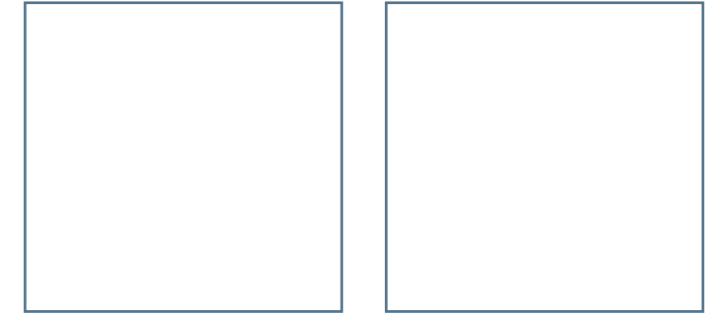


"Most of the tools used are still customer-specific solutions. With the growing industrialisation of software development, however, standardised test products are on the advance. Relevant providers can therefore reckon with high potential demand—especially as more and more old individual systems together with the test tools developed in-house are taken out of service."

Kerstin Dirtheuer, analyst with Pierre Audoin Consultants (PAC)

The information provided by the companies confirms this projection. The majority assume that test automation provides genuine added value and a return on investment. Moreover, almost 40 per cent are currently planning additional investment in test automation tools.

5 | The Know-how



The ISTQB® Certified Tester is accepted as the standard training worldwide

In contrast with the general trend on the IT training market, seminars and training courses for software testing are a growth area. In the meantime, 60 per cent of the companies make specific funds available for the training of software quality assurance experts. The training events primarily take place within the companies (46 per cent). In addition, though, external seminar providers also perform a large proportion of the training measures.

In tester training, too, standardisation is on the advance. The standards set by the International Software Testing Qualifications Board (ISTQB®) have become established in this field. In the meantime some 80,000 experts have been trained and certified in accordance with the Board's standards.

