

Offering Software Testing Services in Europe

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The market for software testing is performing strongly. These services are ideal for outsourcing to developing countries, especially since Europe has a growing IT skills shortage. Industry-specific testing is becoming increasingly important, with the financial services sector being especially promising. Automation and crowdsourcing are becoming standard, but thorough software testing should combine these models with specialised outsourced testing teams.

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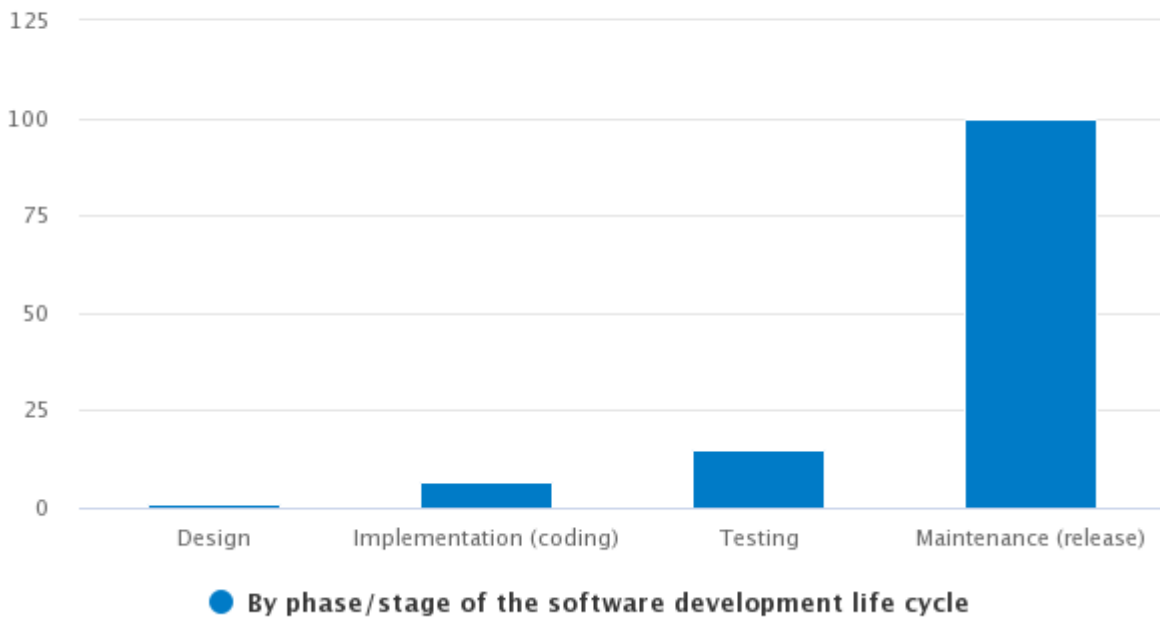
1. Product description

What is software testing?

Properly functioning software is essential to businesses worldwide. Flaws or “bugs” in software can disrupt business processes, as well as pose security risks. Major errors coming to light after the software is released also pose a risk for the company that published it. This can lead to considerable costs and damage to their reputation.

To minimise costs, detecting errors early in the software development lifecycle is key. For example, [fixing an error after releasing the software is 100 times more expensive than in the design phase.](#)

Figure 1: Relative costs to fix software defects



Source: IBM Systems Sciences Institute

Software testing assesses the functional and non-functional requirements of a program throughout the software development lifecycle. With technologies becoming increasingly complex, software testing becomes more important and more challenging.

In addition, modern software development increasingly works on continuous development and deployment. This means new versions of software are released in very high frequency, up to multiple times per day. This is only possible if the testing of this software is highly automated.

There are different ways to test software programs. The two main categories are:

Static testing

Static testing, or verification, is the examination of the program's code for coding flaws, back doors and potentially malicious code.

Dynamic testing

Dynamic testing, or validation, is conducted in a runtime environment while the program is active to monitor system memory, functional behaviour, response time and overall performance of the system.

Thorough software testing requires a combination of dynamic and static methods.

What are software testing services?

Software testing service providers can offer their services in different forms:

- entire test processes, known as Managed Testing Service or dedicated testing teams
- additional resources for major projects
- one-off tests, often related to load, stress or performance
- specialist focus groups that perform Beta User Acceptance Testing

Why do European companies outsource software testing services?

Software testing is an essential phase of software development. The four [main reasons for outsourcing software](#)

testing services are:

Cost reduction

Good software testing requires considerable investments in terms of people and tools. For 60% of executives, cost reduction is their main reason for outsourcing IT. This confirms that cost reduction continues to be the main driver for European companies to outsource IT, like software testing services.

This can give you a clear advantage, as labour is relatively cheap in developing countries. To attract European buyers, your pricing should be competitive, clear and transparent.

Tips:

Offer competitive pricing, but don't compromise on the quality of your services.

Be transparent in your pricing: avoid hidden costs.

Availability of expertise

A major advantage of outsourcing software testing services is that European companies don't need to hire in-house expertise. These services require excellent knowledge and technical skills, which most European companies don't have in-house. In fact, there is a shortage of skilled IT-staff on the European market.

Software testing professionals often have a university degree in software development or engineering. These programmes may include courses in software testing.

The main technical skills for software testers include:

- databases, like MySQL and Oracle
- programming languages, for example JavaScript, Perl, C# and Python
- automation tools, such as Selenium, QTP, JMeter and LoadRunner
- Linux commands
- test management tools, like TestLink, qTest and HP Quality Center
- bug tracking tools, such as Bugzilla, JIRA and HP ALM

Other important skills include analytical thinking, communication, planning and domain/sector knowledge.

When selecting a software testing service provider, companies usually look for:

- experience, also in software testing for their specific business sector
- complete services: type of tests, test lab facilities and professional (certified) testing staff
- continuity
- privacy warranties
- openness and flexibility

Tips:

Emphasise your expertise, experience and flexibility in your marketing activities.

Be flexible and be prepared to adjust the scope of your project along the way.

Independence of testing team

Another key advantage of outsourcing software testing is that it provides developers with an independent review of their product. Because independent software testers weren't involved in the initial development process, they provide a fresh perspective and may detect other flaws. They also don't have a vested interest in the software, so they can focus purely on the quality. This increases confidence, with the buyer company as well as the buyer's clients.

Tip:

Emphasise the benefits of the independent testing you offer in your marketing.

Quality

To prevent the possibly considerable negative consequences of software failure, good quality software testing is essential. Especially when it comes to business-critical applications.

Outsourcing to professional software testers guarantees the quality of the tests. Software testing is their core business, so they have thorough expertise, experience and the necessary tools.

You should agree on service levels based on for example scope (what to test), functions and tasks, standards/quality specifications, test environments, test strategy (average risk level, test design techniques), effort estimation, deliverables and acceptance criteria.

To make sure their operational needs are met, European companies may require a try-before-you-buy experience. For example, a pilot project or demo.

Tips:

Follow the latest technological developments to keep your knowledge and skills up-to-date.

European companies often require proof of your technical skills. Provide references, testimonials and examples of recent work, preferably on your website.

European companies increasingly ask for a try-before-you-buy experience. Offer potential buyers a pilot project or a demo to demonstrate transparency and capability. This also establishes trust.

2. What are the challenges when it comes to outsourcing software testing services?

Data security and intellectual property protection

Data security and intellectual property protection are of the utmost importance to European companies. This is especially relevant to outsourcing software testing service, because software testers may have access to sensitive project and company information

European companies generally perceive offshore data security to be of inferior quality. [The European Union currently considers data to be appropriately protected in a select number of countries:](#)

- the 28 countries of the European Union
- the three countries inside the European Economic Area - Iceland, Liechtenstein and Norway
- countries with “adequate” data protection laws - Andorra, Argentina, the British Islands, Canada, Faroe Islands, Israel, New Zealand, Switzerland and Uruguay, as well as the United States of America (limited to the [Privacy Shield framework](#))

This makes it even more important for you to show potential European buyers that your software testing services are secure.

Tips:

Provide clear information about your company’s data security and privacy measures.

Apply for standards like the [ISO 27000-series on information security](#) to support your commitment to data security.

Offer a Non-Disclosure Agreement.

Make sure you comply with [European data protection rules](#). Look at the requirements section for more information.

Clear communication

Good communication between customer and service provider is essential to software testing services. Unclear communication may cause misunderstandings and disagreements, which can lead to disputes with your buyer.

Professional software testing starts with defining what the software should do. Ask your buyer for example:

- What features should the software include?
- What is its target group (users)?
- What platform(s) should it run on?
- What other software should it be compatible with?

And of course:

- What is your budget?
- What are the deadlines of the project?

The extent of communication with your buyer a project requires depends on the type of contract:

Fixed

With a fixed price contract you agree on specifications, budget and deadlines in advance. During the application development you keep your buyer up-to-date, but you don’t need to negotiate further. This type of contract is suitable for relatively simple and clearly defined projects. European companies tend to prefer this outcome-based pricing strategy for software testing services.

Fixed price contracts, however, assume that the buyer can adequately specify the requirements for the solution. In new and emerging technologies, this is often not the case. Hence, it may be more appropriate to divide the project in smaller parts or phases and contract on a phase-by-phase basis.

Flexible

More flexible models are Time & Material or Dedicated Team contracts. These are especially suitable for relatively complicated projects. In a flexible model, you and your buyer discuss and agree on the specifications

during the development process. This also means the budget and deadlines are not set in advance. These types of contracts require intense communication with your buyer.

More and more organisations are transitioning to an [Agile](#) working model. This means that the overall requirements are determined in less detail and the development takes place in sprints of usually 2-4 weeks. At the end of each sprint, a working product is delivered, then based on the progress and user feedback, the project planning can be adapted. Contracting is often comparable with Time & Material, but with guarantees for the development speed and quality of the products.

In Agile development, the Agile development team is often responsible also for the testing part and ensuring that the developed components can be automatically retested in the future (so-called regression testing).

Tips:

Listen carefully to your buyer's ideas, problems and wishes and thoroughly document them. Ask questions to better understand what your buyer wants.

Regularly update your buyer on the progress you are making.

Be prepared to communicate with your buyer during their office hours, even if they are in a different time zone.

If you use a fixed price contract, make clear agreements with your buyer on a structured plan and the expected timeline of the project.

For more information on the different types of contracts, see Cleveroad's [Types of Contracts in Outsourcing: How to Make a Wise Decision](#).

3. Which European markets offer opportunities for software testing?

Outsourced software testing services market is growing

The market for software testing services is performing strongly. [Demand for outsourced software testing services is predicted to increase with 11% per year](#) between 2016 and 2020.

Most promising sectors

The financial services sector is a key market for software testing services. Most financial applications are (business) critical, requiring a high degree of testing throughout the software development. In this sector, companies can't afford to roll out flawed software. Intense competition on the financial services market and a shift to specialised services push financial institutions to seek for enterprise-grade software testing services.

Other promising sectors include banking and insurance, telecom, healthcare and retail.

Tips:

Provide specialised software testing services for the financial services sector.

Offer high quality software testing services for (business) critical applications.

European IT outsourcing market continues to grow

According to Whitelane Research, [44% of European companies plan to increase their IT outsourcing](#). Another 33% intends to continue outsourcing at their current rate, 12% hadn't decided and a mere 11% planned to decrease their IT outsourcing activities. This indicates that the European IT outsourcing market continues to be a promising target market.

4. What trends offer opportunities on the European market for software testing outsourcing?

Technological developments

Software development is constantly evolving. To provide adequate testing, software testers need to be aware of these developments and keep their knowledge and skills up-to-date. Key developments include mobile applications, open source software, CSS frameworks, Agile and DevOps methodologies, Internet of Things (IoT), big data and cloud-based testing. In turn, IoT and big data systems also require thorough testing.

Tips:

Stay up-to-date on emerging technology trends and developments.

Make sure you have the skills to work with these technologies.

For more information, see our studies on [mobile applications](#), [Internet of Things](#), [big data](#) and [cloud computing](#).

Automated software testing

The increasing automation of IT services poses a threat to the manual software testing market. Automated testing is more reliable, as it isn't sensitive to human error. These tools can work faster and easily perform repeated tests. For example, load testing is ideal for automation.

Modern software development is moving towards "Continuous Delivery" where new versions of a software application are published at a high rate, up to weekly or daily. This means that testing of the existing codebase (regression testing) must be automated as much and as quickly as possible, to allow for continuous testing.

However, there continues to be a need for manual software testing as well. When it comes to user-friendliness or customer experience, manual testing is crucial. It allows the tester to use their personal experience, knowledge and skills. For example, usability testing and ad hoc testing require human input.

Tips:

Offer automated processes that complement your manual software testing services.

For your manual software testing services, focus on the types of testing that require human interaction with the software.

Industry-specific testing

Industry-specific testing services are expected to drive market growth. Service providers increasingly specialise

in vertical market segments, to gain a competitive advantage. For example healthcare, insurance or retail software testing.

Tips:

Provide software testing services for specific industries. Focus on industries you are experienced in, or could easily develop expertise in.

Clearly advertise your specialisations.

Crowdsourced software testing

Crowdsourced testing is becoming increasingly common. In this model, people work together from different locations on a single online project. This is expected to gain popularity in the coming years.

The advantages of crowdsourced software testing include:

- real-time feedback on product development
- diverse testing teams
- scalability and flexibility
- cost-effective payment per detected bug

However, there are also disadvantages to this approach, like:

- a potential lack of confidentiality
- complicated / inefficient communication with testers worldwide
- limited quality control
- payment per detected bug may result in quantity rather than quality

Ideally, companies use a diverse testing approach that includes a dedicated outsourced testing team and crowdsourced testing.

Tip:

Emphasise the advantages of outsourced software testing services in your market. Such as confidentiality, ease of communication and quality service.

Skills shortage

The continued development and upgrading of software continues to drive the need for software testing services. However, there is a considerable lack of IT training, certification and experience in the European workforce. Due to the rapid technological innovations in IT, the skills of IT-graduates don't match the needs of the market. The European Commission expects [the shortage of IT-skilled staff may reach 756,000 unfilled jobs by 2020](#).

Because of this, European companies need to outsource their software testing services to providers with the required expertise. This offers you good opportunities.

Tips:

Closely follow upcoming software (testing) developments and build capacity in these technologies.

Emphasise your professional skills in your marketing, as well as the lower cost you offer.

Ensure your access to skilled professionals. For example by working with universities, setting up training courses or centres, systematically collecting and analysing CVs and have a partner network of companies and individuals.

See our study about [trends on the European outsourcing market](#) for more information on general trends.

5. What requirements should software testing services comply with to be allowed on the European market?

What legal and non-legal requirements must you comply with?

General Data Protection Regulation

Europe's new [General Data Protection Regulation](#) (GDPR) has come into effect on 25 May 2018. This regulation is designed to protect individuals in Europe from privacy and data breaches. Under the GDPR, any company or individual that processes data is also responsible for its protection. It applies to all companies processing the personal data of persons in Europe, regardless of the company's location. This means it also applies to you directly.

The personal data this regulation protects can range from a name or email address, to bank details, social media content, a photo or an IP address. Some key consumer rights you must comply with include consent, right to access, data portability and the right to be forgotten. You also need to practice privacy by design, meaning data protection should be included from the onset of designing systems.

Tips:

If you process data of people in the EU, regardless of where you are in the world, make sure you comply with the GDPR.

For more information on the GDPR (and other European legislation), see our study about [buyer requirements on the European outsourcing market](#).

Copyright - Legal protection of computer programs

The European Union has established specific rules to protect computer programs by means of copyright.

The [Directive on the legal protection of computer programs](#) (2009/24/EC) establishes that:

- you have to make sure not to breach any copyright when placing your computer programme on the market
- your products are also protected against unauthorised reproduction

Tip:

Read more on the [legal protection of computer programs](#) on the website of the European Commission.

What additional requirements do buyers often have?

ISTQB Certification

Providing services from certified software testers can give you a competitive advantage. The main international qualification system is [ISTQB Certification](#), from the International Software Testing Qualifications Board.

This system offers certification for:

- Core - broad software testing
- Agile - specifically for [Agile](#) projects
- Specialisation - for example security tester or usability tester

Levels range from foundation, to advanced, to expert.

Tips:

Study the different types of certification.

Apply for the relevant certification, per software tester.

Voluntary data security ISO standards

Data security is one of the main challenges for service providers. This includes both data protection and recovery systems. Many European buyers expect you to have information security and management systems in place. Especially in industries where security is essential, such as finance and banking or mobile applications. The [ISO 27000-series on information security](#) contains common standards for information security.

Tips:

Make sure you have effective security processes and systems in place. From business-continuity and disaster-recovery to virus protection.

Ask your buyer to what extent they require you to implement a security management system like the [ISO 27002 code of practice for information security](#).

See our study about [buyer requirements on the European outsourcing market](#) for more information.

6. What competition do you face on the European software testing market?

Competition on the European software testing market does not differ significantly from the outsourcing market in general. Refer to our [top 10 tips for doing business with European buyers](#).

Nearshoring more popular than offshoring

European companies prefer to outsource services to providers within the same country (onshoring). When outsourcing abroad they prefer nearshore locations because of proximity, language, cultural similarities and the little or no time difference. These are usually Eastern European countries, due to their relatively low wages. For example Poland, Bulgaria and Romania.

However, prices in nearshore countries are rising. This development makes service providers in these countries less competitive for offshore service providers. It makes European companies more open towards outsourcing to destinations further away. You can choose to form subcontracting partnerships with these nearshoring providers, or compete with them.

Offshoring destinations with the strongest potential are:

- India
- China
- Malaysia
- Indonesia
- Brazil
- Vietnam

Tips:

Limit the possible disadvantages of being offshore. Provide excellent communication, availability in the required time zone and good security and privacy measures.

Differentiate yourself from onshore and nearshore providers to remain competitive. Emphasise how you are different in your marketing message. Do not only compete on price, but also analyse what other advantages you can offer. For example access to skills or specialised industry expertise.

Research what your competitors are doing right and wrong. This can help you differentiate yourself from them.

Partner with nearshore service providers, as Eastern European companies are looking for cheaper destinations. Many service providers in developing countries have not yet recognised this opportunity.

7. Through what channels can you get your software testing services on the European market?

Subcontracting by European service providers

Subcontracting by European service providers is your most realistic market entry channel. It means that European service providers subcontract software testing services to you, that end user companies have contracted to them.

Tips:

Target service providers whose size is in line with your capacity.

Focus on companies that serve the same industries as your company.

Attend relevant industry events in your target country to meet potential partners. This also allows you to learn more about their business culture. For example [Agile Testing Days](#) in Germany, [European Testing Conference](#) in Finland, [EuroSTAR](#) in Denmark, [National Software Testing Conference](#) in the

United Kingdom, [Nordic Testing Days](#) in Estonia, [Swiss Testing Day](#) in Switzerland and [TestBash](#) at different locations in Europe.

Use industry associations to find potential customers in Europe. For example [Bitkom](#) in Germany, [Nederland ICT](#) in the Netherlands and [UKITA](#) in the United Kingdom.

National outsourcing associations can also be interesting sources to find potential customers. For example [Global Sourcing Association](#) in the United Kingdom, [Outsourcing Verband](#) in Germany and [Platform Outsourcing](#) in the Netherlands.

Develop good promotional tools, such as a professional company website and a company leaflet. Also invest in Search Engine Marketing, so potential customers can easily find your company online.

Direct sales to end users

You can also try to sell your Software testing services directly to European end user companies. New electronic marketplaces may make this easier. These marketplaces are a cheap marketing tool. They are expected to lead to lower transaction costs for searching, evaluating, integrating and monitoring cloud services. Although they mainly contain smaller projects for freelancers, they could lead to pilot projects for companies. However, you need excellent end market knowledge.

Tips:

Research the end market segment that you want to focus on. This allows you to effectively market your company.

Look for potential leads in the field of software testing on online outsourcing marketplaces. For example [UpWork](#) and [Freelancer](#) (freelancers), [Ariba](#) (corporate) and [LinkedIn](#).

Intermediary

You can approach European service providers and end users of Software testing services directly, or through an intermediary. A local contact person is an advantage, especially if you are located in a lesser-known outsourcing destination. Intermediaries, such as a consultant/matchmaker or sales/marketing representative, can therefore be an important channel to establish contact with potential buyers.

Refer to our study on [finding buyers in the European market](#).

8. What are the end market prices for software testing services?

Price is the main reason for European companies to outsource software testing services to developing countries. Staff salaries make up a large share of the costs of these services. This means outsourcing them to countries with lower wages can lead to considerable savings. For example, the average annual salary of a software tester in the United Kingdom is €28,000. In the Philippines, it is around €6,500.


Tips:

Research the average salaries in your European target country. For example via [Payscale](#), a global database for salary profiles.


Emphasise the potential salary savings in your marketing.

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