

The European market potential for software testing services

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The COVID-19 pandemic predominantly had a positive effect on the ICT sector. It accelerated the demand for software testing services. The European market potential for software testing services has therefore continued its growth during the pandemic. The biggest trend is the desire of software developers to work with software testers in a team and to continuously test the software at all stages of the software development process.

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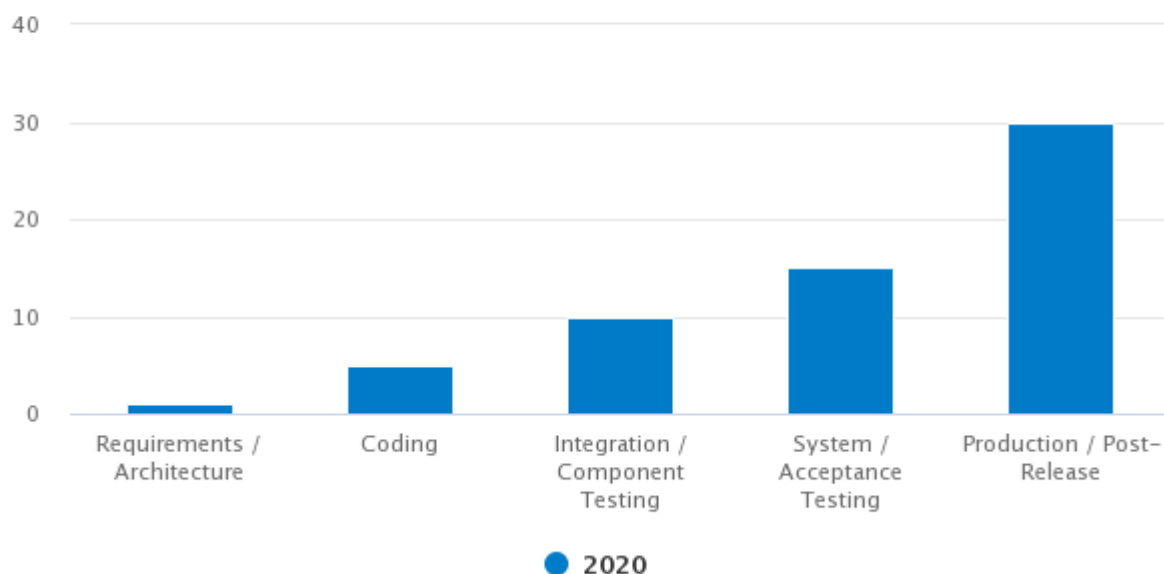
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1. Product description

Software testing is a process to evaluate the functionality of a software application. The goal is to find out if the software meets the specified requirements and if it has any flaws or 'bugs'.

Initially in software development, testing was the second-to-last phase. But both software developers and testers agree that it is better to test the software at all stages of the development process, because [fixing an error after releasing the software](#) is up to thirty times more expensive than doing so earlier in the process (see Figure 1).

Figure 1: The relative cost of fixing a flaw at different stages of the software development lifecycle



Source: IBM NIST

The main reasons [why software testing is a crucial and integral part of the field of information technology](#) are: cost effectiveness, customer satisfaction, security and product quality. Software testing can be done either manually or automatically.

Figure 2: Software Testing Lifecycle



Source: Globally Cool

The [software testing lifecycle](#) (Figure 2) is a series of well-defined activities that software testers need to complete to ensure the quality of the software. Each step has different goals and deliverables. Although different testing companies may design their own software testing lifecycle, the basic structure of this process remains the same.

2. What makes Europe an interesting market for software testing services?

Europe is the second-largest software testing market in the world. The market for software testing services has been growing significantly for the past years and its growth is only accelerated by the appearance of COVID-19 and is expected to stay.

European software testing market is growing significantly

The [global software testing services market is expected to grow by a compound annual growth rate CAGR of almost 12.4% from 2021 to 2025](#). The largest markets for software testing services globally are Canada, China, Germany, the United Kingdom and the United States. They are expected to remain the largest markets for 2021-2025.

North America is expected to dominate the software testing market, but [Europe is expected to stay number two](#). This is mainly due to an increase in demand for cloud-based testing services. There is no specific information available for the value and/or the growth rate of the European software testing market. However, data about software development revenue in Europe does give us a good indication of the revenue in the software testing industry, as all software that is being developed needs to be tested: between 2016 and 2021 [software market revenue in Europe](#) grew from €83.36 billion to €105.30 billion. This is a CAGR of almost 4%.

COVID-19 accelerated the demand for software testing services

Where most industries suffered from some kind of setback from the pandemic, the software testing industry was hardly affected. In general, the COVID-19 pandemic only accelerated the demand. European businesses are coming to realise that ITO can make them more flexible and resilient in difficult times.

In a 2020 survey among British companies not currently using ITO, [37% indicated they would consider outsourcing IT and development as a result of COVID-19](#). As remote working is blurring the distinction between in-house and outsourced teams, this could open new doors for you with buyers that were previously reluctant to offshore.

The biggest negative effect can be seen on the supply side. Some companies had trouble delivering when their staff was forced to work from home without sufficient tools (initially).

Skills shortage in the sector

Software testing is a dynamic field. The roles are continually changing to keep up with how software is used.

This means that there is a multi-dimensional skill gap in the sector. Companies do not have enough employees with the right skills and many software testers no longer have all the required skills to fulfil their role.

The demand for software testers increased dramatically, fuelled by the rapid developments of high-end technology, such as 5G, IoT and big data. The supply cannot keep up with the demand. According to the [Hays Global Skills Index](#), 2019/2020 edition, Sweden had the highest mismatch between supply and demand for software testers. But the [problems exist globally](#).

To fill the gap, many companies in Europe try to hire software testers from abroad. An easier option, which provides more flexibility, is to outsource software testing tasks to offshore providers like you. The recent increase in remote working due to lockdowns may spur this on, as it blurs the distinction between in-house, nearshore and offshore teams.

However, the preferred model for European companies remains working in a team, whether that team is physically located in the same building or is scattered around the globe.

The [highest demand is for test engineers in the finance sector](#), but the demand is high in almost all industries. Other examples are retail, marketing, gaming and publishing.

Tips:

Find the right people. Consider hiring people who have the necessary qualities, but do not yet have the right requirements. You can train them on the job.

Keep your people. Invest in education, create a good work environment. In short: keep your employees happy and skilled.

Nearshoring versus offshoring

European companies prefer to outsource services to providers within the same country, a practice also known as domestic outsourcing. When outsourcing abroad, they prefer providers in nearshore locations, because of proximity, language, cultural similarities and minimal time difference. Software development projects (which include software testing) are often complex, long and variable. This makes good communication between client and developer particularly important.

This is why most European companies that decide to work with software testers abroad prefer them to be part of their team. This means continuously communicating between the software developers and the testers.

Traditionally, the buyer markets for software testing services are Western and Northern European countries. The most popular nearshoring locations for companies in these countries are Central and Eastern European (CEE) countries such as Poland, Bulgaria and Romania. Not only do these countries offer the usual nearshoring benefits, but as they are members of the European Union, contracts and payments are governed and protected by the same European legislation as in the buyer countries.

However, [prices in nearshore countries are rising](#), partly driven by the shortage of software testers. This makes service providers in these countries less competitive than offshore service providers, which makes European companies more open towards outsourcing to farther destinations. You can choose to form subcontracting partnerships with these nearshoring providers or compete with them.

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 compete only on price, but also analyse what other advantages you can offer, such as access to skills and specialised industry expertise.

Partner with nearshore service providers, for example in CEE countries, that may be looking for cheaper providers with available workforce.

3. Which European countries offer most opportunities for software testing services?

Northern and Western European countries are traditionally the biggest outsourcing markets. While the largest countries offer opportunities based on their size, some smaller countries can be interesting target countries too. There are several reasons for that: some are quite advanced in their use of software or are catching up from years of not investing much. Some are a regional hub or have governments that make software development a priority. And some of those countries are home to companies that are interesting to form a partnership with.

Germany - the largest European software testing market

Germany's software testing industry is forecast to grow at a CAGR of 9.8% from 2020 to 2027. The contribution of Germany to the total market in 2019 was estimated to be **10.5 to 11.25%**. Germany is traditionally not very open towards outsourcing, but the country made a big leap in during the pandemic. It has **softened Germany's generally stiff corporate culture** and shown companies what is possible with remote working and outsourcing.

Germany is the largest economy in Europe, home to 19% of the European Union's population. The German economy is widely considered the stabilising force within the European Union, historically showing a higher growth rate than other member states. The country's main industries include the automotive, electrical and chemical sectors. They increasingly rely on software to optimise production, improve products and remain competitive, a transformation referred to as **Industrie 4.0**.

Germany is also home to some of Europe's largest software companies, like SAP and Software AG. There are more than **900,000 professional software developers in Germany**. In 2019, **the German software industry was projected to grow from €18 billion in 2018 to €20 billion in 2021**. This translates to an average annual growth rate of 2.9%. The potential effects of the COVID-19 crisis were not yet included in this prediction, but in general, the pandemic is expected to boost the need for IT solutions.

There could be some language barriers when providing outsourcing services to Germany, as companies generally prefer to work and collaborate in German. Generally, you need an intermediary in Germany to communicate with (potential) clients for you.

United Kingdom - the highest revenue share in the world

In software testing services, the United Kingdom has the **highest revenue share** in the world. The United Kingdom is expected to remain the largest European market for software testing services for the next five years at least. There are almost **850,000 professional software developers in the United Kingdom**.

Of all European markets, the United Kingdom is the most open to offshore outsourcing and the least cautious about doing business with developing countries. This openness is due to the nation's cost-saving business culture and historical ties to many countries across the globe.

France - another large European player

In 2019, the contribution of France to the total software testing market was estimated to be [5.2 to 5.56%](#), which places them in the top-20 biggest software testing markets globally. There are more than [500,000 professional software developers in France](#). Like most European countries, France also faces a skills shortage in software testing professionals.

The companies that hold the largest market share in the French software development industry include SAP France, IBM France SAS, Oracle Corporation and Microsoft Corporation.

France is generally a difficult market for ITO and BPO service providers, because outsourcing products or services abroad is not very popular. However, if you can offer French-speaking services, the threshold for outsourcing is much lower.

The Netherlands - innovative and strong

The Netherlands has the sixth-highest GDP per capita in Europe. An impressive [60% of all Forbes 2000 IT companies have established operations in the Netherlands](#), making the country a real IT hotspot. It also has the [most tech-related start-ups out of the smaller countries](#).

In 2019, the [Dutch software industry was projected to grow from €5.4 billion in 2018 to €6 billion in 2021](#), at an average annual rate of 3.7%. With 19 professional developers per 100,000 inhabitants, [the Netherlands has the highest density of software developers in the European Union](#). However, they also have [26 job vacancies per available tech worker](#). This shortage could drive many towards outsourcing solutions and it makes the country a particularly interesting market, despite its size.

Companies in the Netherlands are traditionally fairly open towards outsourcing. In fact, [79% of the top IT-spending organisations plan to continue outsourcing at their current rate or even more](#) in the next two years. Language barriers are generally not an issue, as the Dutch are very proficient in English.

Nordic countries - in urgent need of software talent

The Nordic markets (Sweden, Finland, Denmark, Norway and Iceland) are smaller than the markets of Germany, the United Kingdom, the Netherlands and France; yet their combined spending on software testing in combination with their strong economies and openness towards outsourcing makes this region an interesting market to focus on.

According to the European Commission, both Finland and Sweden will come close to a [complete return of their economic powers in 2021](#). In the same forecast, Denmark is also expected to make a strong recovery, albeit not so strong as Finland and Sweden. Norway was not included in the survey, but other sources say that [its recovery will also be one of the quickest in Europe](#).

The Nordic countries are also facing a [significant talent shortage](#). An increase in investments has fuelled market growth, making the software developer shortage go into hyper speed.

Czechia - from outsourcing destination to outsourcer

Czechia is a well-known nearshoring destination in Central and Eastern Europe. It is a relatively small country with a relatively big position in the global tech market. There are almost [100,000 professional software developers in Czechia](#). Czechia has a good reputation as an ITO and BPO destination. For example, it is amongst the [top 10 best-protected countries against cyber-attacks](#) in the world.

It is known as an innovative, software talented and technology savvy hub. The country also has the [highest number of tech-related start-ups in the region](#).

In 2017, [79% of Czech companies with IT vacancies struggled to fill these positions](#). This was the highest and

fastest-growing rate of any European country. Although the current COVID-19 crisis may temporarily ease the shortage on the Czech labour market, [Eastern Europe is expected to recover quicker than Western Europe](#). This may drive Czech software companies towards subcontracting.

Tips:

Select your target market not only based on size, but also on cultural similarities, time zone differences, historical ties and shared languages.

Use the member lists of relevant industry associations to identify potential buyers, such as [Association for Software Testing](#) (AST) and the national chapters of the [ISTQB](#). You can also attend (online) industry events such as the ones mentioned in this list of [Software Testing Conferences](#).

Make sure you have access to skilled professionals, for example by working with universities, setting up training courses or centres, systematically collecting and analysing CVs and having a partner network of companies and individuals.

Emphasise your professional skills in your marketing, as well as the lower costs you offer. For more ideas, see our [tips for finding buyers on the European outsourcing market](#).

4. What trends offer opportunities or pose threats on the European software testing services market?

The current pandemic is accelerating the existing trend of digital transformation and automation, as companies are in need of (new) digital solutions to keep their business operational. At the same time, technologies such as artificial intelligence, machine learning and the internet of things could offer you opportunities.

Although you should stay up to date on the latest trends and techniques in software testing demand, you cannot tap into each trend. Focus on those that suit your business and may enhance growth. For more information, see our study on [trends for ITO/BPO](#).

Added value partners

Just doing your job is not sufficient for European buyers. They want a valuable partner. They are looking for quality, communication, technical expertise, domain knowledge and certification. Software developers and their testing team need to prioritise a customer-focused approach at each stage in the development cycle. Added value has surpassed cost saving as the primary reason to outsource software testing services.

Adoption of codeless testing tools

Codeless testing tools are built on sophisticated AI technology combined with visual modelling. They allow software testers to generate easy test case scenarios without needing coding knowledge. They also help to reduce the time that is wasted on recurring test cases. Examples of test automation tools are [TOSCA](#), [test.ai](#), [Ranorex](#), [Ghost Inspector](#) and [TestComplete](#).

Incorporating manual and automation testing

Combining manual and automation testing can increase productivity, save time and enhance the quality of the software testing. With automation testing, the speed and efficiency is very high, but it cannot cover aspects like design, user experience and usability. The balance of both automated and manual testing is expected to be the future for software testing providers.

Infrastructure as a Code (IaC)

Infrastructure as a Code is a practical way to manage your operational environment. Instead of manually making configuration modifications (or making use of one-off scripts to make infrastructure changes) the operations infrastructure is controlled using similar structures and rules that govern code development.

It means that things like virtualised tests, continuous monitoring and version control are applied to the underlying code that governs the design and management of your infrastructure. Thus, the infrastructure is treated exactly like any other code would be treated. You can do this by using advanced coding systems such as [Puppet](#) or [Ansible](#).

Trends in the work relations between buyers and suppliers

The pandemic increased communication and understanding between buyers and providers of ITO and BPO services. They were faced with similar challenges and there was mutual understanding. Also, many European companies had to let their staff work from home if it was possible. Their software testing teams are now also working on the same project from different locations, albeit in the same country.

This process is working surprisingly well and therefore many European companies are increasingly opening up towards working with team members that are not in the same building. If the team members can reach each other during a minimum of three working hours a day, the location of your company is not very important. That is what industry experts experienced when working with team members abroad. If you work together for three hours a day or more, you can get to know each other and feel part of the team.

Cybersecurity and digital resonance

Digital resonance looks at how companies handle the effects of digital transformation, in particular automation and cybersecurity. Digital resonance is informed by metrics like the digital skills of a country's workforce, legal security and cybersecurity, corporate investment in start-ups and digital innovation outputs.

In short: European companies find digital resonance a very important factor when choosing a software testing service provider. [You can find your country's digital resonance score](#) on the website of the consulting firm Kearney.

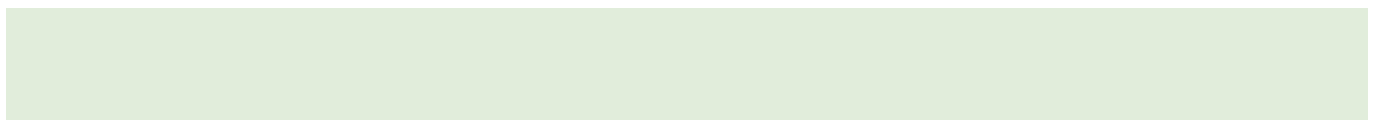
Rising adoption of Agile and DevOps

DevOps is a response to the demand for accuracy and speed. [Agile is popular to respond to quickly changing needs](#). DevOps comprises practices, processes, tools and rules that assist in integrating operational and development actions to minimise the time from developing to operations. Agile helps the software development team (including the testers) to develop and send quality software rapidly. Both trends gained higher interest over the past five years and will become even more important in the coming years.

Figure 3: Testing life cycle in Agile



Source: Globally Cool



Tips:

Move fast and build your capabilities and capacity in software testing services now, to establish a position in the market when the market will heat up from 2021 and beyond.

Trends in the software development industry directly influence the software testing industry, because all software that is being developed needs to be tested. For information on ITO trends, see our study on [what trends offer opportunities on the European outsourcing market](#). Also refer to [exporting software development services to Europe](#), to learn more about the European software development sector.


This study has been carried out on behalf of CBI by [Globally Cool B.V.](#) in collaboration with Laszlo Klucs.

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