The European market potential for software development services

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The European market for software development services is growing. The shortage of software developers is pushing European companies towards outsourcing their software development. In addition to offering cost savings, outsourcing allows these companies to stay focused on their core business. The most important driver of demand is digital transformation and automation, which is accelerated by the current pandemic. Relatively new technologies such as artificial intelligence and the Internet of Things could offer you opportunities.

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1. Product description

Software is a set of data, instructions or programs that tell a computer what to do. The 3 main types of software are:

- System software - controls the computer’s core functions and allows applications to run;
- Application software - allows end users to perform tasks;
- Programming software - enables developers to create other software.

IBM Research defines software development as a set of computer science activities dedicated to the process of creating, designing, deploying and supporting software. Software development typically involves a set of steps known as the software development life cycle (SDLC). Regardless of the SDLC model (Waterfall, Agile, etcetera), it includes:

- Planning and requirement analysis;
- Design;
- Implementation/coding;
- Testing;
- Deployment;
- Maintenance and support.

Providing software development services is a key segment within IT outsourcing (ITO). As a software development service provider, you can offer a complete package of SDLC services or any number of individual services such as coding or testing.

Tips:

Look at your SDLC and software development methodology and clearly define what you can offer based on your capacity, expertise, experience and strong references.

If you focus on software testing, see our study on software testing services
2. What makes Europe an interesting market for software development services?

Europe has a growing demand for software development services. The combination of a considerable shortage of skilled software developers and an increasing need for digital transformation and automation drives this growth. Many software development tasks require specialist knowledge and practically every company needs software in some shape or form, but most companies do not want/need to hire an in-house software development team. Because of this, software development is the most outsourced IT service in the world.

Software developer shortage

There is a large gap between the number of software development jobs and the number of available software developers. In 2014, the European Commission predicted a shortage of 900,000 IT professionals for 2020. In 2017, they adjusted this prediction to a shortage of 500,000. Although it may be smaller than initially estimated, the shortage is real: 53% of European companies report difficulties in recruiting IT specialists.

While the European software developer population is growing, it cannot keep up with the booming demand. In 2019, the number of software developers in Europe increased by 7% to 6.1 million. At the same time, demand for IT skills in Western markets is expected to grow by more than 10% in 2020! This demand is boosted by the awareness recent lockdown measures have created of the need for digital transformation and automation.

To fill the gap, many companies in Europe try to hire software developers from abroad. Since the developer shortage affects most European countries and most European software developers prefer jobs within their own country, companies regularly recruit talent from outside Europe. An easier option, which provides more flexibility, is to outsource software development 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.

Focus on core business activities

A major advantage of outsourcing software development services is that European end-user companies do not need to hire in-house expertise if they outsource these activities. Software development requires excellent knowledge, skills, tools and security provisions that most European end-user companies do not have. Outsourcing allows them to focus on their core business and gives them the flexibility to engage specialised developers as and when needed.

This is particularly relevant during the recovery from the COVID-19 crisis. Companies need the staff they retained to perform their core activities, which may already include additional tasks from colleagues that were fired or furloughed. There is also relatively little room in the budgets for new hires, making outsourcing an attractive solution.

Tips:

- Emphasise your expertise, experience and domain knowledge in your marketing activities. This can be the deciding factor when European companies are selecting a service provider.

- Read Stack Overflow’s annual Developer Survey, which shows which developer skills are in demand and provides demographic information on software developers worldwide. Also see MeetFrank’s hottest software developer skills in 2020.

- Keep your skills up to date. If possible, obtain certification and clearly communicate you are certified in your marketing and client interactions.

- Specialise in a few programming languages, rather than working with several languages you do not fully control.
Cost reduction

Cost reduction remains an important reason for European companies to outsource software development to providers abroad. Software developers in developing countries normally cost less per hour than software developers in Europe. The lack of software developers in Europe further increases the cost of the available specialists, who are in high demand. This is good news for outsourcing companies in developing countries, which are often able to offer similar services for lower prices.

Although cost savings are no longer the main reason for outsourcing, companies that were/are affected by the COVID-19 crisis have tighter budgets than before. This could make offshoring to developing countries more attractive. Be aware, however, that if your offer is ‘too cheap’, European buyers may think it must be too good to be true and assume quality is low.

Tips:

- Offer competitive pricing, but do not compromise on the quality of your services. Try not to compete only on prices.
- Be transparent in your pricing: avoid hidden costs.
- In addition to your competitive prices, promote your expertise, experience, references, capacity, flexibility, reliability and communication capabilities.

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 are often complex, long, variable and also critical to the client’s strategic future. This makes good communication between client and developer particularly important.

Traditionally, the buyer markets for software development 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 they are members of the European Union, so 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 developers. This makes service providers in these countries less competitive than offshore service providers. This 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.

Research what your competitors are doing right and wrong, to learn how you can differentiate yourself from them.

Partner with nearshore service providers, for example in CEE countries, that may be looking for cheaper providers with available workforce. Many service providers in developing countries have not yet recognised this opportunity.

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

Northern and Western European countries are traditionally the biggest outsourcing markets. While the largest countries offer opportunities based on their size, some of the smaller countries are key players in the software industry. In addition, Central and Eastern Europe is becoming a promising market for partnerships with nearshore providers.

Northern and Western Europe - large countries

Of the larger European economies, Germany and the United Kingdom are the most promising markets for you. For French-speaking providers, France could also be an interesting market.

Germany is Europe’s largest economy

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. In fact, according to the Economist, Germany will be the first major European economy to recover from the current crisis. This expectation is based on both the country’s healthy finances before the crisis and its large industrial sector, the reboot of which also benefits suppliers abroad.

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 around 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.

Tech-related start-ups can be a viable target for software development offshoring, as they often cannot afford to employ a large development team, have limited software development budgets and need solutions fast. Germany has the second-largest number of tech-related start-ups in Europe, after the United Kingdom.

Although its size makes Germany an interesting market, companies are less open to offshore outsourcing than in countries like the United Kingdom and the Netherlands. However, as German businesses continue to face skills shortages and become more experienced in offshoring, their attitude towards it is improving. In addition, the COVID-19 crisis may create more opportunities for you on the German market, as it has softened Germany’s generally stiff corporate culture and shown companies what is possible with remote working and outsourcing.
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 current and potential clients for you.

**The United Kingdom remains attractive despite Brexit**

The United Kingdom is the second-largest economy in Europe. Among its main sectors are finance and banking, which are included in the services sector, the biggest contributor to the British Gross Domestic Product (GDP). Software is a very important element in this sector.

In the CBI study about the demand for IT outsourcing in Europe, you can read how the United Kingdom’s withdrawal from the European Union (Brexit) made British companies more cautious about outsourcing, which contributed to a decline in outsourcing after 2016.

However, in 2019, the British software industry was projected to grow from €23 billion in 2018 to €26 billion in 2021. This represents an average growth of 3.7% per year. Around 850,000 professional software developers work in the United Kingdom. The most famous British software companies include Sage, Misys and Micro Focus. In addition, the United Kingdom is home to the largest number of tech-related start-ups in Europe.

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.

**Northern and Western Europe - smaller countries**

Many of the smaller countries in Europe are highly active in the software industry, particularly in the Benelux and the Nordic countries. This means they have a relatively great need for software development services, despite the high density of developers in these countries.

**Benelux - the Netherlands is a European IT hub**

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. Despite this, the country has reported the highest percentage of hard-to-fill software developer vacancies in Europe. This shortage could drive many towards outsourcing solutions and 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 2 years. Language barriers are generally not an issue, as the Dutch are very proficient in English.

**Nordic countries - Finland is in urgent need of software talent**

Finland, home of open-source operating system Linux and companies like F-Secure and Nokia, is another small-sized powerhouse in the IT sector. It is also another example of a country that is struggling with a shortage of software talent.

Although the Finnish workforce has the highest share of IT professionals in Europe (6.8%), this is not enough to meet the booming demand. Despite a high density of professional developers (16 per 100,000 inhabitants), the Ministry of Economic Affairs and Employment reports that the limited availability of skilled labour is threatening to halt the Finnish software sector’s growth.
At the same time, Finland has the most digital start-ups per capita in the world. In 2019, the Finnish software industry was projected to grow from €5.4 billion in 2018 to €6 billion in 2021. This adds up to an average growth of 3.7% per year. Put together, these developments are great drivers for outsourcing. Like in the Netherlands, language barriers are generally not an issue, because Finns have excellent English skills.

**Central and Eastern Europe**

Countries in Central and Eastern Europe are known as popular nearshoring destinations for Western and Northern European countries. However, because of this popularity, they are increasingly facing the same skills shortages as their clients. This means there is a great potential for subcontracting and partnerships in these countries.

**Poland may need offshore partners to keep up with demand**

Within Central and Eastern Europe, Poland is a major player in the software development industry. The country is home to about 25% of the developer population in the region. This adds up to around 300,000 professional developers, in various hubs across the country. These professionals rank as the number 3 best developers in the world, which adds to Poland’s popularity as a nearshoring destination for European buyers.

In 2019, the Polish software industry was projected to grow from €2.1 billion in 2018 to €2.4 billion in 2021, at an average rate of 4.0% per year. The country also has the highest number of tech-related start-ups in the region.

To meet the demand from its flourishing software industry, Poland may increasingly need to turn to offshore partners. As the country has the highest hourly rates for software development in Central and Eastern Europe (€34 to €47), Polish software companies can actually save quite some costs by outsourcing some development tasks or projects to you.

**Czechia struggles to fill IT vacancies**

Czechia is another well-known software development nearshoring destination in Central and Eastern Europe. Renowned IT brands like Avast, AVG and Socialbakers were founded there. In 2019, the Czech software industry was projected to grow from €1 billion in 2018 to €1.1 billion in 2021. This represents an average annual growth of 2.9%. The more than 100,000 Czech software developers are rated as the number 6 highest quality in the world, just 0.3% behind Poland. 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. Like in Poland, the relatively high hourly rates for software development in Czechia (€29 to €45) add to the benefits of outsourcing to offshore providers.

**Tips:**

Select your target market not only based on size but also by looking at factors such as cultural similarities, historical ties and shared languages.

Use the member lists of relevant industry associations to identify potential buyers, such as Digital Europe, Bitkom, the Finnish Software and E-business Association and the Software Development Association Poland.

Attend online and offline industry events such as the EU-Startups Summit, GOTO Amsterdam, JAX London and NEXT.

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.

4. What trends offer opportunities on the European market for software development services?

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 and the Internet of Things could offer you opportunities. Although you should stay up to date on the latest trends and techniques in software development, 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.

The COVID-19 crisis and software development

The COVID-19 pandemic has disrupted business on a global scale, affecting many outsourcing providers. Clients have cancelled non-essential activities, moved their outsourced tasks back in-house or even ceased trading altogether. However, the crisis could also offer you opportunities. While 60% of participants (from developing countries) indicated in a recent CBI webinar that their business was negatively affected by the crisis, a promising 10% reported a positive effect.

Demand for software development services is expected to surge when recovery sets in. As lockdowns forced many Europeans to stay home, the pandemic has highlighted the benefits of IT solutions, both for internal business processes and for engaging with clients. The ability to stay operational often hinged on the availability of (or capability to roll out) cloud-based solutions. Companies have become aware of the possibility that this type of disruption could occur again in the future and of the effects this would have on their business.

At the same time, hiring additional staff to develop these digital tools is generally not feasible. To solve this, businesses are realising that ITO can make them more flexible and resilient in difficult times. In a 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.

Tip:

For more information about guiding your company through crisis situations, see our study on how to respond to COVID-19 in the IT and Business Process Outsourcing sector (ITO/ BPO).

Digital transformation and automation

Digital transformation (also known as DT or DX) refers to the use of new, fast and frequently changing digital technology to solve problems. Non-digital or manual processes are digitalised, and existing digital processes are modified and improved to keep up with new needs and possibilities.

This transformation was already a priority for European companies before the COVID-19 crisis. For example, around 30% of British companies had a digital transformation strategy in place, and another 50% were in the process of implementing one. Almost all of the remaining 20% were planning to have a strategy within 12
As discussed, the pandemic is stimulating the need for new IT solutions that enable companies to continue their operations in these types of situations. This is forcing companies to accelerate their transformation. According to recent data, digital adoption has made 5 years’ worth of progress in just 8 weeks during the crisis.

Companies are moving into the cloud (quicker) and need tailormade solutions to do so. For example, as working fully or partly from home is becoming the norm, staff need remote access to their files and programmes. Now that consumers have further embraced online shopping, retailers need web shops and apps. Agricultural companies need apps to make their supply chain transparent and communicate with their farmers, and the travel industry needs digital solutions to provide a contactless experience.

In 2019, the European software market was projected to grow from €97 billion in 2018 to €108 billion in 2021. Although the exact effect is not yet clear, the increased need for digital transformation and automation may well boost this growth further than predicted.

Within software development, simple and repetitive tasks can be automated, but human creativity and interpretation are required for the more complex processes. This movement is leading to rapid shifts in the workforce in different countries. Low-cost countries are losing jobs due to the increased automation of basic tasks, while highly skilled jobs are being created in other countries to manage the demands from automation. To stay competitive, offshore providers must build capacity for these higher-value roles in software development.

**Tips:**

For more information on how the pandemic may increase digital transformation, see for example McKinsey’s article on how the COVID-19 recovery will be digital and UNIDO’s COVID-19 implications and responses – digital transformation and industrial recovery.

Identify trends and opportunities in the information technology sector via the annual Gartner Hype Cycle for Emerging Technologies.

Check blogs like the ones on Hacker Noon to stay up to date on constantly evolving trends.

**Artificial intelligence and machine learning**

Related to digital transformation and automation is the trend of increasing artificial intelligence (AI) adoption. AI-based software mimics human behaviour, allowing it to adapt to different situations rather than following a single repetitive motion. Machine learning is a branch of AI in which machines are given access to data and learn to use it themselves. These ‘smart’ machines can improve their performance and accuracy through experience.

AI technology can offer tremendous benefits in terms of efficiency, accuracy, convenience, etcetera. Because of this, AI is expected to become a staple of all business software. Its use is increasingly common in various sectors such as healthcare, banking and education. For example, the market for conversational AI (chatbots) is projected to surge from €35 million in 2018 to €384 million in 2027.

According to the European Commission, the main barriers that European enterprises face when adopting AI are difficulties in hiring skilled staff (57%) and the cost of adopting AI technology (52%). These are areas in which outsourcing can offer an easy solution.
With the great potential of AI also comes a concern for the potential bias in these types of systems. Issues such as incomplete data sets and limitations of the machine learning technology itself could lead to biased outcomes of AI-based processes. To prevent this, humans should stay involved in key decision-making processes. Another area where human involvement is needed is creativity. This also applies to software development, where human creativity and interpretation are required for complex tasks.

Tips:

Read about the use of AI in software development and look into good examples of AI-based software. Stay up to date on the latest relevant facts and trends via Emerj’s AI in Business podcast.

Focus on a sub-sector or niche market segment where AI is becoming increasingly important, such as the automotive industry. Study industry-specific examples from the sectors you are active in, such as AI applications in healthcare.

If you offer AI-based software, be honest and proactive in your communication regarding the software’s application and potential bias.

Attend specialised online and offline AI events in Europe, such as CogX in London.

For more information on this topic, see our study on machine learning and AI.

Internet of things (IoT)

Another related trend is the rise of the Internet of Things (IoT). IoT refers to everyday physical devices that are connected to and interconnected with the Internet. These ‘things’ are embedded with electronics, sensors, software, actuators and network connectivity allowing them to collect, send and receive data and to connect and interact with other devices. This collection and exchange of data enables the optimisation of processes, monitoring of environments and performing of computations or mathematical calculations.

The purpose of consumer IoT devices is generally to improve consumers’ daily lives by, for instance, making them safer, healthier or simply more enjoyable. Industrial IoT (IIoT) devices are non-consumer devices, used by organisations to enhance their operations. The purpose of IIoT devices is to allow for increased productivity, efficiency and safety, while decreasing waste.

As the IoT market is booming, so is the demand for IoT software development. Before the pandemic, the European IoT market was projected to increase from €144 million in 2019 to more than €200 million in 2022. In total, 46% of this market consists of software, indicating good opportunities for providers of IoT software development services.

Tips:

Study best practices in IoT-related services, as well as the challenges of IoT software development.

Attend specialised online and offline IoT events, such as the IoT Tech Expo Europe and the IoT World Europe Summit.

For more information on this topic, see our study on exporting (I)IoT-related services to Europe.

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