

The European market potential for software developing services

The European market for software developing services is growing. Most European economies are doing well, technology adoption is high and the shortage of software developers make companies more open towards outsourcing their software development. However, in addition to traditional software development outsourcing issues, such as cost reduction, productivity, enhancement, and security, software developers need to stay on top of technology developments to remain competitive.

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1. Product description

Software development is the process of creating and maintaining applications, frameworks and other software components.

Phases of software development

Typical [software development life cycle \(SDLC\)](#) comprises six phases. Regardless of the SDLC model used, whether it is Waterfall, Agile, Iterative or any other, it includes the following phases:

1. Requirements and analysis for the proposed business solution;
2. Developing the design of the software based solution;
3. Implementation or coding of the software;
4. Testing;
5. Deployment;
6. Maintenance and bug fixing.

Software can be classified into three categories according to its purpose: custom software developed to meet the needs of a specific client or business, commercial and open source software developed to meet the perceived needs of potential users, and software for personal use, for example, for scientists who need research software.

Industry products include maintenance and support, application software, systems software, custom software and leisure and entertainment software. Industry activities include systems software development, application development, database development, and testing and debugging. Software development services do not include designing the systems that use hardware and software, nor software installation and publishing.

Tips:

Look at your SDLC and software development methodology. Define very clearly what you can offer to buyers in Europe regarding the areas where you have capacity, expertise, experience and strong references.

Read the CBI's [Software Testing Services](#) product factsheet if your company focuses on software testing.

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

Europe has a growing demand for software development services. Increasing IT and telecommunication adoption, as well as digital transformation and automation are the key drivers of this growth. Many software developing tasks require specialist knowledge and practically every company needs software in some shape or form, but most companies do not need a software development team in-house. This scenario makes software development the most outsourced IT service in Europe.

Software developer shortage

The world has a large gap between the number of available software developers and the number of software development jobs. The [software developer population](#) is estimated to grow from 23.9 million worldwide in 2019 to 28.7 million in 2024, but that will still not be enough to tackle the shortage. The European Commission had predicted back in 2014 that the shortage would grow to 900.00 software developers by 2020, but a 2018 adjusted [figure has pegged it lower at 500.000](#) — still a significant gap.

Finland lacked 7,000 software developers in 2018 and that is expected to more than double to 15,000 by 2020. Many companies in Europe try to hire software developers from other countries. Start-ups in Amsterdam, for example, have up to 70% foreign software developers in their ranks, mostly from Brazil, France, Turkey, Ukraine and India. Since the developer shortage afflicts most European countries, companies regularly recruit developers from outside the EU.

However, outsourcing software development goes beyond the workforce shortage and money saving. It is also about using software to develop their end activity and business goals. European companies and organisations of all sizes can outsource their software development, potentially to you.

Focus on core business functions

The major driver for European companies to outsource their software developing activities is to focus on their core business, their end activity. Software development requires specific knowledge that most European companies do not have in-house, but software developing companies do, like investing in skills, tools, security and other technology required to produce high-quality software.

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 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.

Tips

In your pitches and promotional materials, including online, emphasise how outsourcing software developing services will improve your customers' business processes.

Offer competitive pricing, but do not compromise on the quality of your services. Try not to compete only on prices. Your pricing should be competitive, clear and transparent.

Read the annual Stack Overflow [Developer Survey](#), which shows which developer skills are in demand and provides demographic information on software developers worldwide.

In addition to your competitive prices, promote your expertise, experience, references, capacity,

flexibility, reliability and communication capabilities.

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

The software development industry is largely influenced by economic and technological trends. The size of a country's software industry is an indicator its software development needs. Changes in business investment and technology adoption across European economies are crucial to software developers' success.

Combine all these factors, the EU markets that offer the most interesting opportunities for software developing services providers from developing countries are: France, Germany, Italy, Netherlands, United Kingdom and Spain.

France: second in software R&D spending

France is home to a growing number of cloud-based software companies and some of the leading IT companies, which are well known also abroad, such as Atos, Dassault Systèmes, Cegedim and Thales.

The software industry in France contributed €37 billion to the economy directly and more than €113 billion in total — more than double than Italy's. The French software sector provides 1.6% of all jobs in France, second only to the United Kingdom in Europe in terms of impact on the domestic market.

Software developer wages in France are relatively high. The total paid in wages by the French software industry in 2018 was €21.4 billion. French investment in software research and development is also high: €2.6 billion per year. Of all European countries, only Germany spends more money on software research and development.

Germany: Europe's largest economy

Germany has the largest population and the largest economy in Europe, home to a modern and efficient manufacturing and engineering sector. Germany's main industries include automotive, electrical and chemical. These sectors increasingly rely on software to optimise production, improve products and remain competitive. Germany is also home to some of Europe's largest software companies, like SAP and Software AG.

The software industry in Germany contributed €62.3 billion to the economy directly and more than €152.6 billion in total, second only to the United Kingdom in Europe.

Software development wages in Germany are the highest in Europe, on average 33% higher than the average European wage. The annual total paid in wages by the German software industry was €35 billion. German investment in software research and development is low in relation to the size of its market, but in absolute terms, it is among the highest in Europe: €2.8 billion a year.

Italy has many SMEs in the high-end sector

Italy is Europe's fourth-largest economy. Its main industrial sectors are automotive, machine manufacturing and aerospace. Italy also has a large agricultural sector, being a major producer of food and wine. The Italian economy has a high share of SMEs focusing on high-end and high-margin products, mostly in the food and wine sector.

The software industry in Italy contributed €20.3 billion to the economy directly and more than €50.8 billion in total.

The Netherlands

The Netherlands has the sixth-highest GDP per capita in Europe. The Netherlands is an European hotspot of leading information and communications technology companies: 60% of all Forbes 2000 companies in the IT industry have established operations in the Netherlands.

Companies in the Netherlands are also relatively open towards outsourcing, making the Netherlands an interesting target market for software developing service providers from developing countries.

The United Kingdom remains attractive despite Brexit

The United Kingdom is the second-largest economy in Europe. Among the UK's largest sectors are finance and banking, which are included in the services sector, the biggest contributor to the British GDP. Software is a very important element in this sector, stimulating the demand for software developing services in the United Kingdom.

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

In Europe, the United Kingdom is the most open country to offshore outsourcing and the least cautious about trading with developing countries, thanks to a traditional cost-saving business culture and traditional trading relations with many countries across the globe.

The most famous British software companies include Sage, Misys and Micro Focus. The software industry in the United Kingdom directly contributed €65.3 billion to the British economy, the highest in Europe.

The United Kingdom has the highest research and development spending in software in Europe, together with Spain.

Spain has the largest software R&D investment in Europe

Spain is Europe's fifth-largest economy. The largest industries in Spain are automotive, renewable energy, agribusiness and tourism; the software industry contributed €12 billion to the Spanish economy, equivalent to 1.2% of the Spanish GDP. Spain also has a relatively high spending in software research and development.

High levels of innovation

Europe is among the leading destinations for companies that offer software development services. One of the reasons behind it is that the region provides good conditions for start-ups to flourish. The number of start-ups per country, for instance, provides a good indicator of innovation and demand for software developers, since start-ups, particularly those in the technology sector, need software to develop their business.

Among the top-12 countries on [this online ranking](#), six are in Europe: United Kingdom (3rd with 5,038 start-ups), Germany (6th with 2,024 start-ups), France (8th with 1,428 start-ups), Spain (9th with 1,235 start-ups), Italy (11th with 871 start-ups) and Netherlands (12th with 863 start-ups).

Tips:

To find the number of start-ups in other countries around the world, check [StartUpRanking.com](#) and the [EU Startup Monitor](#).

The United Kingdom and Germany are the best performing countries [in this ranking of the most start-up friendly countries in the world](#), where you can also check the position of other European countries.

Visit start-up events in Europe, such as [EU-Startups Summit](#), [Startup Grind](#) and [Web Summit](#).

Economic prosperity

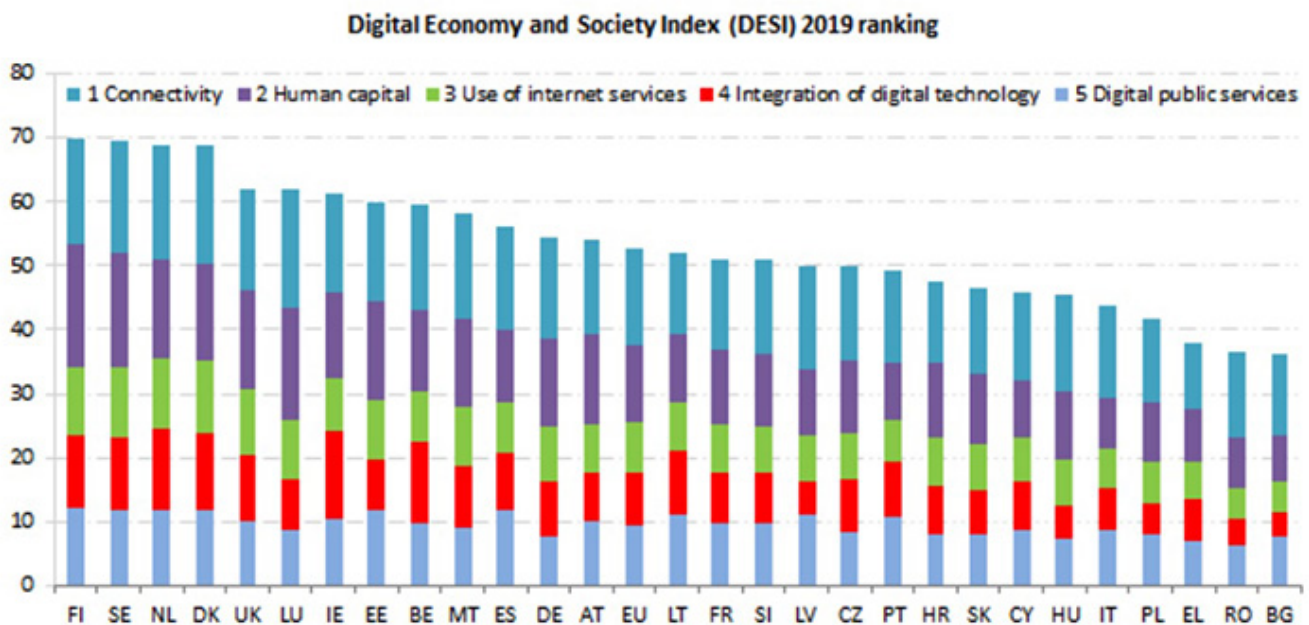
European companies and households increasingly depend on IT. Software development has been central to the rise of this IT-based, digital society. Well-developed industries and sectors drive business and consumer expenditure on technology, especially because economic conditions have been good in recent years. Steady economic progress in European countries can also be a good indicator of opportunities for software development providers.

Digital economies

The software development industry in a given country is impacted by the level of digital performance in that country. A high level of digital performance and significant growth both indicate that companies in that country are more likely to invest in software services than others.

The Digital Economy and Society Index (DESI) is a composite index that summarises relevant indicators on the EU-28 digital competitiveness performance and tracks their digital competitiveness evolution.

Figure 1: Digital Economy and Society Index (DESI) 2019



Tips:

Look up the [Digital Economy and Society Index](#) of the European Commission to see each country's performance and their evolution compared to previous years.

Read [this report about the Swiss software industry](#) if you think Switzerland (not an EU Member) is an interesting target country for you.

Read [this report about the German market](#) if you think Germany is an interesting target country for you.

Nearshoring more popular than offshoring

European companies prefer to contract services out to providers within the same country rather than outsourcing, a practice also known as domestic outsourcing. When outsourcing abroad, they prefer providers in nearshore locations for reasons of proximity, language, cultural similarities and the small or negligible time difference. Software development projects are often complex, long, variable and also critical to the client's strategic future. The communication channels between client and developer have to be very good.

Traditionally, the buyer markets for software development are western and northern European countries, which traditionally prefer nearshoring. The most popular nearshoring locations for companies in these countries are central and eastern European countries, such as Poland, Bulgaria and Romania, due to their relatively low wages.

However, costs in nearshore countries have been rising, also due to the shortage of software developers. This makes service providers in these countries less competitive than offshore service providers. It also 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.

Generally speaking, software design is less outsourced offshore than implementation and testing. Design, planning and managing software development are the least outsourced services within software development. Swiss software companies, for example, mostly outsource deploying and maintenance (15.9%), testing (14.6%) and implementation (11.3%).

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, such as those in central and eastern European countries, which may be looking for cheaper providers with available workforce. Many service providers in developing countries have not yet recognised this opportunity.

4. What trends offer opportunities in the European market for software developing services?

Technology advances and restructuring change existing trends in software product development every year. It is obviously important for developers to stay up to date with the latest trends and techniques in software development. However, you cannot offer every software service related to each trend. Study carefully and select the trends that will most benefit your business. Focus on improving or updating the skills that suit your business and will potentially enhance growth.

Digital transformation and automation

The software development sector has been evolving towards automation. This movement is leading to rapid shifts in the workforce in different countries. Low-cost countries are losing jobs due to increased automation in

the sector and new, highly skilled jobs are being created in certain countries to manage the demands from automation. There is now significant attention to fast-growing automation start-ups driving this disruption.

Tips:

Identify trends and opportunities in the information technology sector on the annual [Gartner Hype Cycle for Emerging Technologies](#).

Check blogs like the ones on [Hacker Noon](#) to stay up to date with constantly evolving trends.

Virtual reality, augmented reality and mixed reality

Virtual reality (VR) and augmented reality (AR) have been around on the software development market for a few years now. However, these techniques are increasingly used in everyday software solutions.

Mixed reality (MR) is a combination of virtual reality and augmented reality. The MR market size worldwide is predicted to grow from almost €43 million in 2017 to €3.4 billion in 2025, thanks to MR integration on smartphone apps. There has also been more recent interest in using these techniques beyond gaming and entertainment, but also in other sectors, such as supermarkets and military applications, mainly for training purposes.

Tips:

Consider expanding your design process with mixed reality solutions if it compliments your business and if you have access to AR developers.

[Look online](#) for information about how developers around the world are already using [mixed reality solutions](#) in their software development.

Artificial intelligence

Artificial intelligence (AI) based software mimics human behaviour. Increasingly common in business software and already present in healthcare, banking, education, and other sectors, AI is expected to become a staple of all business software. For instance, [an estimated 30% of all businesses will use conversational speech tech for consumer engagement](#) by the year 2022.

Software developing companies are advised to follow the AI trend closely. There are numerous industry-specific examples to find, such as this overview of the [artificial intelligence applications in healthcare](#).

Tips:

Read about [artificial intelligence being used in software development](#) and look into some of these [examples](#) to see how artificial intelligence and software are combined. [This web page](#) by Emerj provides links to relevant AI podcasts and mentions artificial intelligence uses in different industries.

Build up expertise and experience in artificial intelligence and consider offering AI software.

Focus on a sub-sector or niche market segment where AI is becoming increasingly important, such as the automotive industry.

Visit specialised artificial intelligence events in Europe, for example, [CogX](#) in London.

Internet of things (IoT)

The term internet of things covers the broad category of devices that are connected to the internet. IoT applications have spread to both consumer and industrial domains, growing particularly large in the safety and customer experience areas. Incorporating IoT in your software solutions can offer you a competitive advantage.

Tips:

Read about [the challenges in IoT software development](#). Also look at some [best practices](#) in IoT related services.

Visit specialised European trade events, such as the [IoT Tech Expo Europe](#) and the [IoT World Europe Summit](#).

Read the CBI's study on exporting IoT-related services to Europe to learn more about trends and opportunities in the IoT market in Europe.

Progressive web applications

Progressive web applications are a hybrid of mobile and web applications. They are completely different from regular mobile applications, mostly working on a script called 'service worker'. They are quicker, safer and cheaper to develop and maintain and load very fast even on low internet speeds. All these qualities have thus attracted many mobile app development companies to focus on progressive web applications.

One of the most famous businesses to use progressive web applications was China's AliExpress, which was among the first mainstream online shopping websites to roll out a progressive web application. Customers who have recently shopped at AliExpress on a mobile device may have accessed its progressive web application without even realising it, which shows the power of this kind of software. AliExpress' application is a perfect example of fast and sleek mobile design: It has a very small footprint, but still functions as a complete hub for shopping and browsing its massive marketplace.

Progressive web applications are considered the future of web applications. [They are known to generate 60% more core engagement, 50% ad click-throughs and 44% more user-generated adds](#). Including progressive web applications in your assortment significantly enhances your competitive advantage.

Tips:

Consider offering progressive web applications to your customers, if it matches or complements your core business. Find out how progressive web applications can benefit your customers' businesses [on this blog](#) post.

Check [these examples](#) of progressive web applications.

Programming languages

To provide software developing services, you need to specialise in at least one programming language. Different software technologies require different programming languages. Developers select the optimum language for programming at the end of a software development project.

There are [256 known programming languages](#). The 20 most popular programming languages, in order of popularity are: Java, C, Python, C++, Visual Basic.NET, JavaScript, C#, PHP, SQL, Objective-C, MATLAB, R, Perl, Assembly Language, Swift, Go, Delphi Object Pascal, Ruby, PL/SQL and Visual Basic. The [most in-demand programming languages in 2019](#) were Java, Python, Javascript, C++, C#, PHP and Perl.

Tips:

Specialising in a few programming languages, such as two to four, is preferred over working with several languages you do not fully control.

Keep up to date with your programming language skills. If your language offers certification, make sure to obtain them and mention it in your communication with potential customers.

Visit specialised events or conferences in Europe, for example [JAX London](#) and [GOTO Berlin](#).

Low-code development

Low code is a visual development approach to application development. It enables developers of varied experience levels to create web and mobile applications using drag-and-drop components and model-driven logic through a graphic user interface.

Low-code development has been around for five to six years, but still is an important trend in the software development industry. This trend is important because low code allows IT companies to hire non-technical employees for programming software. Low-code development does not only open doors for non-technical people, it also [increases the pace of development](#), thereby reducing time to market (TTM).

Tips:

Look at the possibilities that low-code development offers for your business.

Read about the [pros](#) and [cons](#) of low-code development, including examples.

When deciding [which low-code platform to use](#), first clarify what you want low code to do for your business, then identify the right people to use the platform and do not forget that IT will still be involved.


Visit [Mendix World](#) in Rotterdam, the Netherlands, in 2020, the world's largest low-code event.

See the CBI's study on trends in the European IT outsourcing market to see which trends are impacting IT outsourcing in Europe.


This study has been carried out on behalf of CBI by Globally Cool.

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