

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. The most important driver of demand is digital transformation and automation, which is accelerated by the COVID-19 pandemic. Cybersecurity is a top priority, especially now that companies are moving into the cloud.

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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 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 model (Waterfall, Agile, etcetera), the SDLC 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). You can offer a complete package of SDLC services or any number of individual services.

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's demand for software development services is driven by a great skills shortage and the need for digital transformation. Practically every company needs software, but most do not want/need to hire an in-house software development team. Because of this, software development is among the most outsourced IT services in the world.

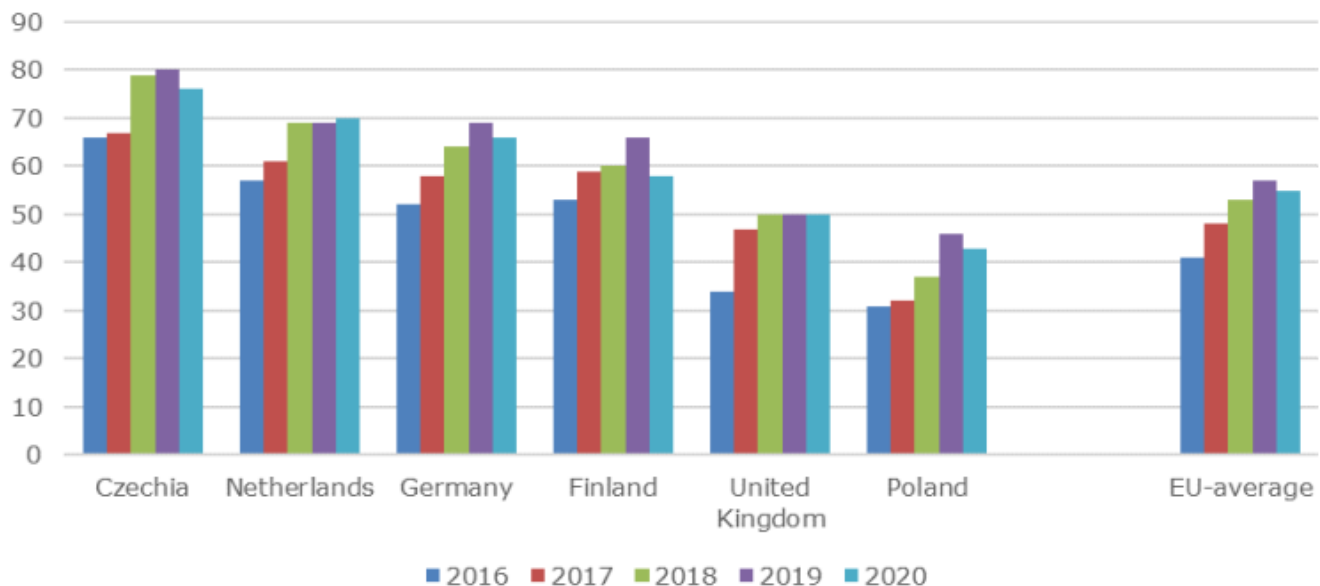
Growing European ITO market

The European ITO market, including software development services, is expected to keep growing. In surveys by Whitelane Research and partners among the largest European IT spending organisations, [34% plan to outsource at the same rate and 38% plan to outsource more in the next two years](#), while just 15% plan to outsource less.

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 to a [shortage of 500,000](#). Although it may be smaller than initially estimated, the shortage is real: [more than half of European companies that recruited or tried to recruit ICT specialists had difficulties in filling these vacancies](#).

Figure 1: Enterprises with hard-to-fill vacancies for ICT specialists, in %*



*of enterprises that recruited or tried to recruit ICT specialists

Source: Eurostat

For example, in 2020 12% of all companies in the Netherlands were looking for ICT specialists. 70% of the companies hiring had difficulties finding these experts.

While the European software developer population is growing, it cannot keep up with demand. In 2019 the number of software developers in Europe increased by 7%. At the same time, demand for IT skills in Western markets was expected to grow by more than 10% in 2020. For 2021, demand for high-tech skills is predicted to grow by 20% (!) due to increased innovation and demand that was held back in 2020. The fact that 34% of CIOs report that most candidates lack soft skills further limits the availability of suitable talent.

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, providing 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 recovery from the COVID-19 pandemic. Companies need their staff 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.
- 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 that you do not fully master.
- Attend specialised (online) events or conferences in Europe, such as [JAX London](#) and [GOTO Berlin](#). GOTO also provides recordings of sessions from previous conferences.

Cost reduction

Cost reduction remains an important reason for European companies to outsource software development. In developing countries, software developers normally cost less per hour than 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 can often offer similar services for lower prices.

Companies affected by the COVID-19 pandemic may have tighter budgets than before. In fact, [cost reduction now seems to have become a \(or the\) primary reason for ITO again](#). 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 quality. 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 their country. When outsourcing abroad, they prefer providers in nearshore locations because of proximity, language, cultural similarities and minimal time differences. Software development projects are often complex, long, variable, and critical to the client's strategic future. This makes good communication between client and developer particularly important.

The main 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. Not only do these countries offer the usual nearshoring benefits, but if they are members of the European Union (EU), contracts and payments are governed and protected by the same EU legislation as in the buyer countries.

However, [prices in nearshore countries are rising](#), making service providers in these countries less competitive. This, in turn, makes European companies more open to outsourcing to farther destinations. The increased familiarity with remote working because of the COVID-19 pandemic also seems to work in favour of offshoring. For example, in a Quint and Whitelane survey among Dutch ITO buyers, [18% now want more offshore ITO](#). To benefit, you can choose to form subcontracting partnerships with 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, so you can differentiate yourself from them.

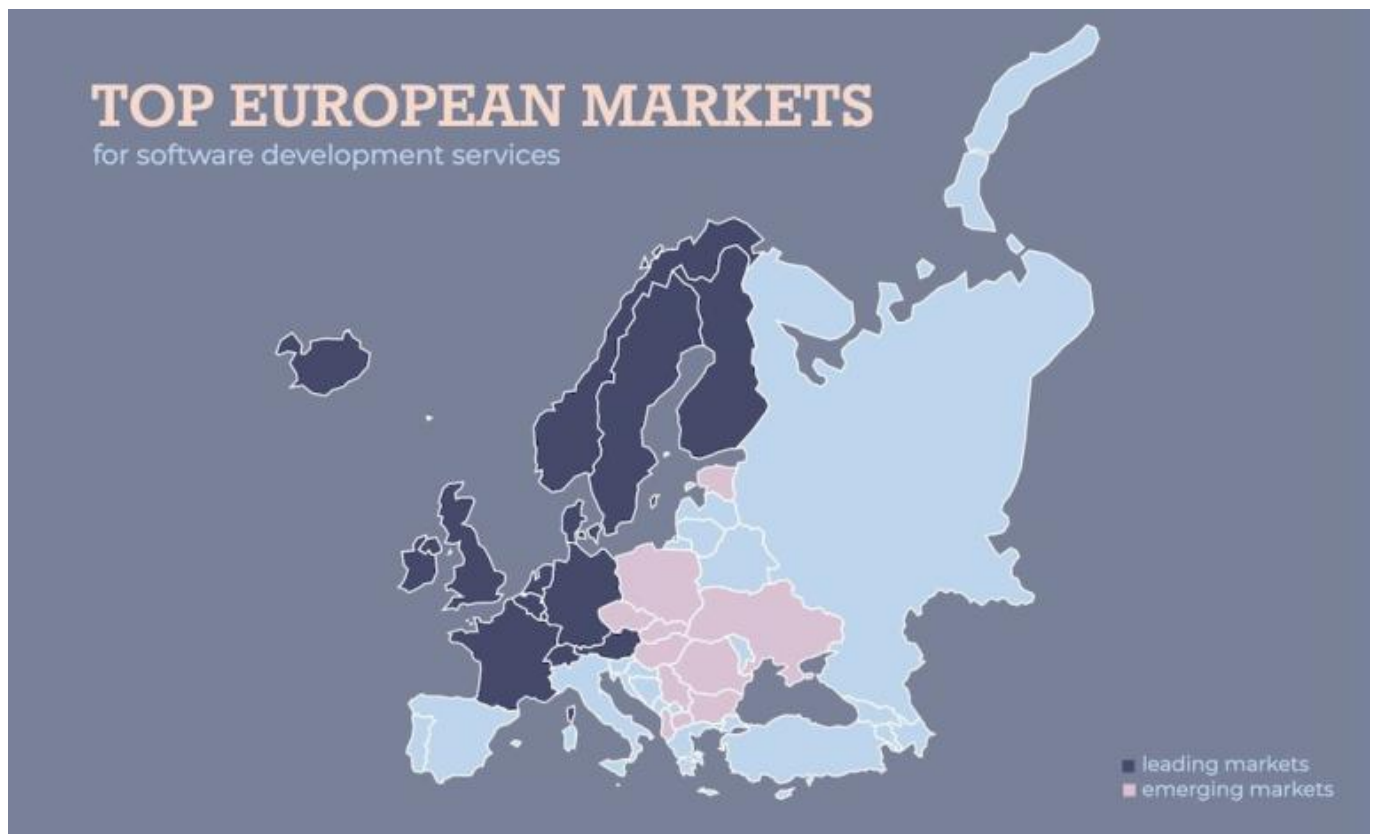
Partner with nearshore service providers, for example in CEE countries, that may be looking for cheaper providers with available workforce. Many service providers in developing countries have not yet recognised this opportunity.

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

Northern and Western European countries are the biggest outsourcing markets. While the largest countries offer opportunities based on size, some smaller countries (particularly the [Benelux](#) and the [Nordic countries](#)) are key players in the software industry. In addition, CEE is a promising market for partnerships with nearshore providers.

Figure 2: Leading European markets for software development services





Northern and Western Europe - large countries

Germany is Europe's largest economy

Germany is the largest economy in Europe, home to 19% of the EU's population. Its economy is widely considered the stabilising force in the EU. The European Commission projects the [German Gross Domestic Product \(GDP\) to be back at pre-COVID-19 levels in 2021](#). Germany's main industries include the automotive, electrical and chemical sectors. They increasingly rely on software to optimise production, improve products and stay competitive.

The country 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](#), at an average annual rate of 2.9%. The potential effects of the pandemic were not yet included in this, but they are generally expected to boost the need for ITO.

[Germany has the second-largest number of tech-related start-ups in Europe](#), which can be a viable target market for software development offshoring. They often cannot afford to employ a large development team, have limited budgets and need solutions fast.

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 pandemic may create more opportunities for you, 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, 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. If

you can do business in German, you could also target German-speaking companies in Austria and Switzerland.

The United Kingdom remains attractive despite Brexit

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

In 2019, [the British software industry was projected to grow from €23 billion in 2018 to €26 billion in 2021](#), at an average rate 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. For the coming years, the exact effects of Brexit – combined with the COVID-19 pandemic – on software development offshoring are unclear. If the IT skills shortage increases due to stricter immigration rules, offshore ITO suppliers like you could benefit from this

Northern and Western Europe - smaller countries

Benelux - the Netherlands is a European IT hub

The Netherlands has the sixth-highest GDP 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 1000 inhabitants, [the Netherlands has the highest density of software developers in the EU](#). Despite this, the country has one of the highest percentage of hard-to-fill IT vacancies in Europe ([53% in 2020](#)). This could drive many companies towards outsourcing solutions, and it makes the country an interesting market, despite its size.

Companies in the Netherlands are traditionally open towards outsourcing. In fact, [80% of Dutch ITO-buyers plan to outsource at the same rate or more](#) (the highest level in Europe) in the coming 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 IT. It is also another example of a country with a shortage of software talent. Although [the Finnish workforce has the highest share of IT professionals in Europe \(7.6%\)](#), this is not enough to meet booming demand. Despite a [high density of professional developers](#), 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](#), at an average rate 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 (CEE)

Poland may need offshore partners to keep up with demand

Within CEE, 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](#), adding to Poland's popularity as a nearshore provider 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 offshoring. As the country has the [highest hourly rates for software development in Central and Eastern Europe](#), Polish software companies can save quite some costs by subcontracting to you.

Czechia struggles to fill IT vacancies

Czechia is another well-known software development nearshoring destination in CEE. 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](#), at an average annual rate of 2.9%. The [more than 100,000 Czech software developers](#) are rated as [the 6th highest quality in the world](#), just 0.3% behind Poland.

However, in 2020, [76% of Czech companies with IT vacancies struggled to fill these positions](#). This was the highest rate in Europe. Although the pandemic may temporarily ease this labour shortage, economic recovery may drive Czech software companies towards subcontracting. Like in Poland, the [relatively high hourly rates for software development in Czechia](#) add to the benefits of offshore subcontracting for these companies.

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) 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 trend of digital transformation and automation, as companies need (new) digital solutions to keep their business operational. See our study on [trends for ITO/BPO](#) for more information, including on technologies such as artificial intelligence and the Internet of Things.

The COVID-19 pandemic 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, it could also offer you opportunities.

While 56-60% of participants (from developing countries) in recent [CBI webinars](#) indicated that their business was negatively affected by the pandemic, a promising 25-30% reported a positive effect.

Demand for software development services is expected to surge. 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 a survey among British companies not currently using ITO, [37% indicated they would consider outsourcing IT and development as a result of COVID-19](#). With remote working blurring the distinction between in-house and outsourced teams, this could open new doors for you.

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 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. This was already a priority for European companies before the COVID-19 pandemic. 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 months.

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. In 2020, [digital adoption made 5 years' worth of progress in just 8 weeks](#).

Companies are moving into the cloud (quicker) and need tailormade solutions to do so. For example, as working (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 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, you must build capacity for these higher-value roles in software development.

Tips:

- For more information on how the pandemic has increased digital transformation, see for example

McKinsey's [digital COVID-19 insights](#) and UNIDO's [COVID-19 implications and responses - digital transformation and industrial recovery](#).

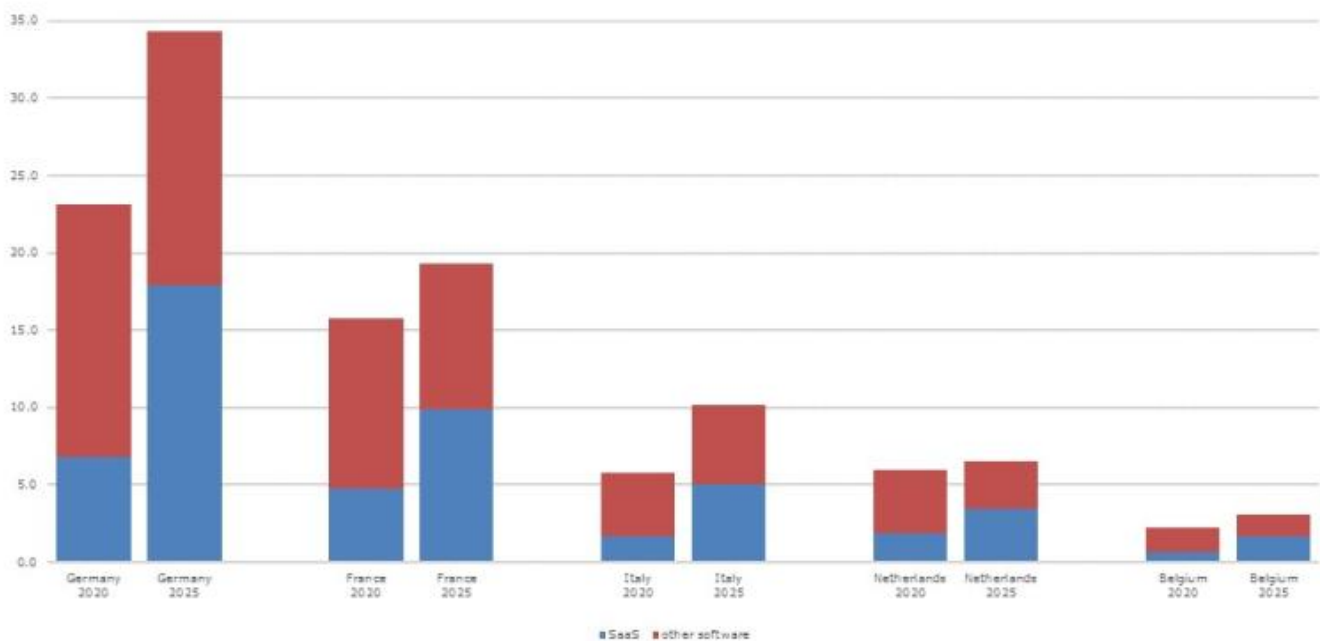
- Identify trends and opportunities in IT via the annual [Gartner Hype Cycle for Emerging Technologies](#).
- Check blogs like [Hacker Noon](#) to stay up to date on evolving trends.

Software-as-a-Service

Because of the current digital transformation in European companies, the need for cloud-based ITO ('as-a-service') is increasing. In Europe, demand for cloud-based services is expected to overtake "traditional" ITO in the coming years. For example, in a recent Cloud Industry Forum survey, [55% of companies increased their adoption of cloud technologies in 2020 because of the COVID-19 pandemic](#), and 88% expect to increase their cloud adoption in 2021.

This move into the cloud is also reflected in the demand for software-as-a-service (SaaS), which makes software available to clients in the cloud via a subscription-based model.

Figure 3: Market revenue of software-as-a-service (SaaS) versus other software



Source: Statista

Statista highlights some key European markets for software development services, where [demand for SaaS is booming](#). It illustrates that the software market growth between 2020 and 2025 will mainly be driven by the increased need for cloud-based software solutions. For example, the German market for SaaS is projected to grow by 162%, as demand for traditional software stays stable.

Tips:

Use (cloud-based) technologies suitable for SaaS solutions, so your clients can offer their customers subscription-based software services. Opportunities for you to offer your own subscription-based software services directly to European end-users are limited.

Clearly communicate the [benefits of SaaS](#) to your (potential) buyers.

Like with any software, ensure the [security of any SaaS-application](#) you may work on.

Cybersecurity

With Europe's digital transformation and the accompanying move into the cloud, cybersecurity has become a top priority. This is particularly relevant for SaaS, because according to the Cloud Industry Forum survey, [41% of companies believe remote working is still not as secure as the office](#). 57% of companies identified security projects as being among the most crucial IT priorities for their business.

With cybercrime on the rise, cybersecurity needs to be proactive – preventing breaches and attacks rather than reacting to them. Key to this approach is to include security throughout your SDLC (“shift left”), instead of waiting until the ‘testing’ step. Besides creating secure software, this can also save costs: [the cost of fixing vulnerabilities increases from \\$80 in the early development process to \\$7,600 after they have moved into production](#).

The Open Web Application Security Project (OWASP) lists the [top 10 web application security risks](#) for software developers:

1. broken access control
2. cryptographic failures
3. injection
4. insecure design
5. security misconfiguration
6. vulnerable and outdated components
7. identification and authentication failures
8. software and data integrity failures
9. security logging and monitoring failures
10. server-side request forgery

This is “globally recognised by developers as the first step towards more secure coding”. The foundation also provides a well-known list of security techniques that you should use in your software development projects.

The [OWASP Top 10 Proactive Controls](#) are:

1. [Define Security Requirements](#)
2. [Leverage Security Frameworks and Libraries](#)
3. [Secure Database Access](#)
4. [Encode and Escape Data](#)
5. [Validate All Inputs](#)
6. [Implement Digital Identity](#)
7. [Enforce Access Controls](#)
8. [Protect Data Everywhere](#)
9. [Implement Security Logging and Monitoring](#)
10. [Handle All Errors and Exceptions](#)

Tips:

- Study OWASP's resources and use the [OWASP Top 10 Proactive Controls](#) to develop your software.
- Stay up to date on trends in cybercrime and software security risks.
- For more information, see our study on [cybersecurity](#).



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

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