Entering the European market for Artificial Intelligence (AI) and Machine Learning (ML) software development services

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To enter the European market for AI and ML software development services, you must comply with different laws and regulations such as the Artificial Intelligence Act. Buyers often have additional requirements. You can best tap into different horizontal and vertical market segments by subcontracting through a European service provider or through online platforms. The strongest competition comes from Asia as well as Central and Eastern Europe.

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1. What requirements and certifications must AI and ML software development services comply with to be allowed onto the European market?

This part of the study focuses on the market entry of AI and ML software development services. Market entry requirements for software development in general can be found in our study about Entering the European market for software development services.

New legislation is always being made. Listing or knowing all the regulations would be impossible, so this chapter just discusses the most common requirements.

What are the mandatory requirements?

The development, deployment, and use of AI and ML are governed by various laws and principles relating to data protection and privacy, consumer protection, product safety, liability, etc. but there is currently no legal framework to regulate AI or ML. However, some mandatory requirements are now being prepared.

Artificial Intelligence Act

The European Commission is currently preparing the Artificial Intelligence Act. Part of this act came into effect in April 2022. The topics this act covers include adequate risk assessment and mitigation systems, the quality of the datasets, traceability, documentation, security, and accuracy. Part of this Artificial Intelligence Act is about ethical AI.

The goal of the act is to strengthen Europe's leading position in human-centric, sustainable, secure, inclusive,

[and trustworthy AI](#).

General Data Protection Regulation (GDPR)

The GDPR currently has no chapter on AI or ML. But parts of the GDPR are relevant to AI and/or ML: Article 4(1), Article 4(2), Article 4(11), Article 5(1)(b), and Article 5(1)(d).

What additional requirements do buyers often have?

Technical requirements

European buyers often require knowledge of and experience in programming languages such as Python, R, Java, Scala, TypeScript, Julia, and C++), Neural Network Architectures and NLP.

Or they require knowledge of and experience in Big Data Technologies such as SPARK, Hadoop, Cassandra, and MongoDb.

Other technical requirements relate to specific algorithms and frameworks, such as deep learning algorithms, PyTorch, Theano, TensorFlow, Caffe, Scikit-learn, and NumPy.

Corporate Social Responsibility (CSR)

Most European buyers of AI or ML software development services will require – or at least appreciate - certification relating to Corporate Social Responsibility (CSR). You can read about why CSR is important and how you can implement it in the two documents entitled 'Tips to go green' and 'Tips to become a socially responsible supplier'.

Example:

A company called Impact Sourcing successfully integrates green and social practises and uses this as a Unique Selling Point (USP). They specialise in providing data for AI and ML projects. When you visit their website, it is immediately clear that this is a company that has a clear vision and values on the social and green aspects of outsourcing. They are also very good at what they do. Their services, customers, and project examples are clear, and their landing page has multiple calls to action (CTAs), including a message box and an invitation to subscribe to their newsletter.

Agile work management

Many European companies have adopted 'agile' project management. In some sectors, its popularity is losing ground, but for AI/ML software development, Agile is currently the best project management tool. Being familiar with agile working and even being certified might give you a competitive advantage.

It is important to keep an eye on other tools that are emerging, such as Cognitive Project Management for AI (which can also be used together with Agile methodologies).

Popular Agile certifications are PMI-Agile Certified Practioner, ICAgile Certified Professional, AgilePM Foundation, Certified ScrumMaster, Professional Scrum Master, and SAFe Product Owner/Product Manager.

What are the requirements for niche markets?

On the European market for AI and ML software development, requirements vary per industry, segment, and even country. Different industry-specific standards, rules, and regulations exist for education, healthcare and so on. When planning to offer AI or ML software development services to a specific industry, country, or segment, please check the specific requirements.

Country

For country-specific information, please check the government websites. For example, if you plan to export to Germany, check the website of Bitkom, Germany's digital association.

Industry

Different industries set different requirements. In healthcare, for example, Health Level 7 (HL7) and the Health Insurance Portability and Accountability Act (HIPAA) are important. In the automotive industry, MISRA and AUTOSAR are the two main coding standards used, but ISO 26262 and ISO 15504 are also applicable.

Segment

AI and ML software can also be divided into segments according to application. Each segment might also have specific requirements. Examples are virtual assistants/chatbots, forecast & modelling, text analytics, and speech analytics. And then there are the recently launched Text-to-Image Generators (such as Dall-e-2 and Deep AI) and the image to art generator: Facetune.

> **Tips:**
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> Follow the European Union's development of laws and regulations relating to artificial intelligence and machine learning closely.
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> Learn from your clients and monitor potential clients to see what requirements they find important. Perhaps you can work on certifications or social goals together.

2. Through what channels can you get Artificial Intelligence and Machine Learning software development services onto the European market?

The European market for AI and ML software can be divided into horizontal and vertical market segments. You can tap into these segments through several different market channels. The most realistic market channels for you are subcontracting through a European service provider or through online platforms.

How is the end market segmented?

The market for AI and ML software development can be segmented according to horizontal market (application) and vertical market (end user industry). At the moment, there are quite a number of niche segments in AI/ML. There is plenty of space for new ideas and innovation. But industry experts do not expect this situation to last for many more years. So, it might be interesting to grasp your opportunity now. Be aware, too, that AI and ML are expected to spread to more segments.

Figure 1: Horizontal and vertical market segments with opportunities for service providers

Source: Globally Cool

In 2021, the banking financial services and insurance (BFSI) segment dominated the market and is expected to

continue dominating the market until 2028.

The application segment held the largest revenue share in 2021 and is expected to maintain its dominance for the forecast period. The product segment held the second largest market share in 2021 and is expected to grow rapidly during the forecast period (until 2028).

Buyers in a particular segment may also be interested in more than one AI or ML application. In healthcare, for example, image analysis, treatment recommendations, and drug research are all based on AI or ML applications. And in manufacturing, predictive maintenance, supply chain optimisation, price forecasting, energy management, and many other activities are all based on AI or ML applications.

Tips:

If your service is a relative commodity, focus on a niche market, especially if you can find a niche market that is underserved with AI/ML software or has the room/need for digital transformation.

Research the end user industry that you want to target. Subscribe to the mailing lists of organisations that combine that end user industry with technological solutions, such as the British Health Tech Association.

If you specialise in conversational AI, this report about the European Conversational AI Market 2021-2027 might be very interesting to you.

Through what channels do AI and ML software development services reach the end market?

Figure 2 provides an overview of the trade channels you can use to enter the European market. This structure is very similar in every country. Subcontracting by European service providers is your most realistic market entry channel. This means that European service providers subcontract AI and ML assignments to you that end user companies have contracted to them.

Figure 2: Trade structure for outsourcing software development services in the European market

Tips:

Decide on a business model. You can develop your own AI and/or ML services, or you can focus on becoming a subcontractor for European partners.

Create the 'ideal' client to help you tailor your offer, such as 'a technology provider with fewer than 200 staff in the Rhineland area, specialised in forecast & modelling for the transport sector'.

What is the most interesting channel for you?

Your most promising market entry channels are European service providers and consultants/matchmakers. Which channel is right for you depends on your type of company, the nature of your service, your target market, and the available resources for market entry. Understand that, regardless of the channel you choose, your own

marketing and promotion is a vital part of your market entry strategy, for which you are responsible.

European service providers

You can find a European service provider (ESP) to partner up with either directly or by working together with a matchmaker and/or a sales representative. Many European companies prefer to deal with a local contact person, so an intermediary is a good option. A European service provider that is similar to your company would be your most suitable contractor. Ideally, this company should design, develop, market, sell, and maintain AI or ML software similar to yours.

The relationship between an ESP and a subcontracted supplier is characterised by:

- Trust;
- Interdependence;
- A structured relationship (functions, tasks, communication, and procedures);
- Limited marketing visibility and market access opportunities for the subcontracted supplier;
- No intellectual property (IP) rights, or a loss of IP rights for the subcontracted supplier;
- Work on an if/when necessary basis

Tips:

We only recommend directly approaching European service providers if you have experience in the target market. Otherwise, you should consider working with a consultant/matchmaker.

Attend relevant live or online industry events in your target country to meet potential partners and competitors. This will also allow you to learn more about their business culture. Attend AI/ML-related events like AI Expo Europe in Amsterdam, AI World Congress in London, or MWC in Barcelona. Do your homework and select the events very carefully. Only attend events that fit your profile well. Many trade events directories are available online, such as 10Times, and UK Exhibitions. Use AI or ML industry associations or outsourcing associations to find potential customers in Europe. Examples are European Association for Artificial Intelligence (EurAI), European Artificial Intelligence Alliance (EAIA), AI Now Institute Europe, AI for Good Foundation, and Association for the Advancement of Artificial Intelligence (AAAI).

Use general IT industry associations to find potential customers, such as Bitkom in Germany, NLdigital in the Netherlands, and techUK and BIMA in the United Kingdom. If you specialise in a particular industry, you can also use associations in that niche, such as the Association of British HealthTech Industries.

Consultants/matchmakers

A consultant or matchmaker is a person or company with many relevant contacts in a specific market segment or industry. As an intermediary, they are a door opener, not an agent that makes cold calls or sends cold emails. Always properly inform your consultant/matchmaker about your company. They speak with many potential customers and often create long lists of potential outsourcing providers. The more information they have on your company and the better they understand your capabilities, the more they can tell others about you.

If you work with a consultant/matchmaker:

- The consultant/matchmaker makes appointments with prospects for you;
- The presentation and sales process remains your responsibility;

- You pay a retainer and a success fee (which can be expensive);
- The consultant/matchmaker usually has multiple clients;
- You need to set clear expectations and objectives so that you can measure their performance.

A retainer plus success fee construction can be expensive. The success fee depends on what the intermediary has delivered, but you must pay the retainer (usually a fixed monthly payment) regardless of their performance. Together, they should provide a strong motivation for the intermediary to deliver: the retainer should be high enough to cover some of the costs, but low enough to encourage delivery. It is very important to ask a lawyer to draft the contract.

Matchmakers make appointments with prospects for you. However, the presentation and sales process remain your responsibility. This means that a consultant or matchmaker is a good option for you if you feel comfortable taking care of the presentation and sales process yourself.

You also need to include an exit strategy in the contract. It is in the absolute interest of the service providers to clearly define a fairly short period after which the contract can be terminated without any further consequences. This period is usually not longer than three or four months. After this period, the contract will be evaluated and can be terminated – for non-delivery for instance – or extended for another period. The delivery expectations and targets you set the consultant or matchmaker for this initial period must be clearly defined. Specify, for example, the number of relevant contacts, meetings, and leads you expect. You can also consider negotiating a trial period.

Tips:

Work with a good lawyer who knows the laws of the country where the intermediary resides and has previous experience with this type of contracting. Pay special attention to exit clauses, success criteria, deliverables, and payments.

Think about who would be a good sales representative for your company. Your uncle who lives in Germany might be convenient but is not necessarily the best choice.

Pre-COVID-19, various organisations organised matchmaking sessions or missions that companies from developing countries could participate in. Find out if there are any organisations in your country that offer online or offline matchmaking sessions.

Sales/marketing representative

Another type of intermediary is a sales/marketing representative. These representatives are more involved in the sales process than consultants/matchmakers.

When working with a sales/marketing representative:

- The sales/marketing representative contacts prospects for you;
- The sales/marketing representative also makes the sales and sometimes manages projects;
- You pay a retainer and success fee (which can be expensive), or a fixed monthly fee;
- The sales/marketing representative can have multiple clients or work exclusively for you.

A good sales/marketing representative has a large, relevant network, so they do not make cold calls to bring in services for you. Their success fee is often a percentage of the projects they bring in. Your expenses will increase because you have to pay a sales/marketing representative, but you will be free to focus on your core business and to search for other markets by yourself.

Other options
Direct sales

For most suppliers from developing countries, it is very challenging to sell AI or ML software directly. Sometimes, suppliers from developing countries team up with other service providers to make an offer for direct sales to European customers. Having one or more customers in Europe will help you find another suitable European customer because you really need references if you want to enter this market through direct sales.

Funding your product or service

You can also try to fund your AI/ML software development services by attracting investments via crowdfunding or establishing startup companies as spin-offs of your company, often in collaboration with the producer of the physical products in question.

Crowdfunding is defined by Fundable as a method of raising capital through the collective effort of friends, family, customers and individual investors via online channels, such as via social media and crowdfunding platforms. By using of different European crowdfunding platforms, you can find potential investment partners based in Europe and raise capital to help further develop business ideas.

Online platforms

Electronic marketplaces are a cheap marketing tool that may make direct sales easier. Although they focus mainly on smaller projects for freelancers, they could lead to pilot projects for companies. However, you will not succeed unless you have excellent end-market knowledge.

Setting up a local sales office

Some IT outsourcing providers choose to open a local sales office. However, this is never the first step you should take. You will need clients that are already in the market and strong evidence that your clients base will grow in that market. In addition, you will need access to good salespeople with local knowledge and sufficient funds.

> **Tips:**
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> Build a professional, high-quality company website, where you present full, accurate, and up-to-date details of your product/service offering. Make it compatible with mobile devices such as smartphones and tablets, as these are increasingly popular in Europe. Also, invest in Search Engine Marketing and Search Engine Optimisation, so that potential customers can easily find you online.
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> A good LinkedIn profile is also very important.
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> You can also find leads and display your knowledge on LinkedIn and Github Marketplace. Freelancers and very small companies can find leads on UpWork, Fiverr and Freelancer. For more information on finding business through online marketplaces, please read our study about finding buyers on the European outsourcing market.
>
> Take a look at sites such as Crowdsourcing Week and Silicon Canals to learn more about crowdfunding and to find the best European platforms. Different countries use different platforms.

3. What competition do you face on the European Artificial Intelligence and Machine Learning software development market?

Which countries are you competing with?

India, Malaysia, Indonesia, Brazil, and Vietnam are your strongest competitors, but countries in Central and Eastern European (CEE) are also strong competitors.

The Global Services Location Index (GSLI) ranks the competitiveness of ITO/BPO destinations based on four categories: financial attractiveness, people skills and availability, business environment, and digital resonance.

Table 2: Global Services Location Index

Financial attractiveness (35%)	People skills and availability (25%)	Business environment (25%)	Digital resonance (15%)
Compensation costs	ITO/BPO experience and skills	Country environment	Digital skills
Infrastructure costs	Labour force availability	Country infrastructure	Legal and cybersecurity
Tax and regulatory costs	Educational skills	Cultural adaptability	Corporate activity
	Language skills	Security of IP	Outputs

Source: Kearney analysis

Source: Kearney 2021*
*we expect the 2023 version to be published in the summer of 2023.

India – low-cost destination, mostly known for 'bulk' projects

India continues to lead the Global Services Location Index (GLSI). This leading position is mainly due to the country's unique combination of low-cost services and English language skills. This attractive profile makes India a particularly strong competitor on the IT outsourcing market.

To stay ahead, India will need to prepare itself for the transition from lower-skilled jobs that may be replaced by robots to more creative and highly skilled work. This applies to other low-cost countries as well.

India's reputation as an AI/ML outsourcing destination is not very good. It is usually regarded as a 'bulk' destination and not a place to go to if you are looking for very good quality work. Because AI and ML technology requires innovative thinking and highly skilled workers, India will need to improve in the area of AI and ML if it wants to stay in the lead.

In addition, India's language advantage is getting smaller. Many other countries are catching up, while India's overall language skills have not improved.

European buyers often associate extremely low developer rates in Asian countries with poorer project quality. They assume that cheap service providers must be using less skilled or less experienced service developers, or even that the developers' working conditions must be poorer.

Example:

Pixelcrayons is an India-based company. They are an award-winning Digital Consulting & Engineering Firm that provides comprehensive software solutions to Enterprises, ISVs, Digital Agencies, and Startups. Their expertise in ML and AI development empowers clients to think, predict, and act smartly. With a focus on advanced frameworks such as Apache Singa, Amazon ML, Azure ML Studio, Caffe, H2O, and MLlib (Spark), their machine learning development company ensures the delivery of optimal solutions. By leveraging their ML development expertise, clients can unlock new possibilities, enhance operational efficiency, and achieve tangible business results.

CEE countries – fast-growing IT sectors

Poland and Romania are also strong competitors as AI and ML outsourcing destinations. This is because their governments are investing more domestic and foreign funds in AI and ML.

The Polish IT outsourcing ecosystem combines around 700 business service centres located in Warsaw, Kraków, Łódź, and Wrocław. Poland is home to the third most skilled programmers in the world. Polish software engineers have experience working with rising technologies such as AI and ML. They are also good in mainstream programming languages.

The market value of the Romanian software industry is growing quickly. In 2021 the ITC industry made a 6.7% contribution to Romania's national GDP, and this is projected to reach 10% over the next few years. The market size of the software development sector alone is currently estimated at $3.2 billion.

Thanks to clear and transparent procedures for registering property, paying taxes, and enforcing contracts, Romania is drawing the attention of global tech companies. Several multinational corporations have already opened their offices in locations around the country. For example, HP has built a software development centre in Cluj-Napoca, IBM operates in Brasov, Microsoft in Timișoara, Amazon in Iasi, and Oracle in Bucharest.

Other strong competing countries in this region are Serbia, Bulgaria, Hungary, and Macedonia.

Example:

Nexocode is a Poland-based AI company. They excel in innovative AI development and have strong technical abilities and strategic vision. Their expertise in machine learning enables them to create intelligent solutions that enhance everyday lives. They offer advanced AI development services throughout the AI lifecycle. They are proud of their tight-knit team of talented developers and designers that specialise in innovative business solutions focused on artificial intelligence. With clear communication and custom AI solutions, they support clients in strategy, product vision, AI software development, DevOps, and UX/UI design.

Malaysia – highly educated workforce and strong country image

Malaysia ranks third in the GLSI, mainly thanks to its large and relatively highly educated workforce with English language skills. In addition, Malaysia has a relatively high digital resonance score.

Malaysia has a strong software development industry with a good reputation as an ITO and BPO destination.

Indonesia – large talent pool

Indonesia has one of the largest and youngest workforces in the world. Its labour market is very active and is growing by 2.5 million workers annually, of whom 250,000 are university graduates. Labour costs are also very low. As a result, Indonesia provides a wide range of options for companies that want to outsource some of their services.

Brazil – strong IT sector

Brazil ranks fifth in the GSLI. Sao Paulo is rapidly becoming the digital hub of Latin America, attracting more startup investment than Chile, Colombia, Argentina, and Mexico combined. Although Brazil is not yet a very common outsourcing destination for European companies, its four-point jump in the GSLI since the last edition (2019) suggest that the Brazilian outsourcing sector is performing well.

In 2021, the Information Technology (IT) market in Brazil was valued at €42 billion, according to a report by the Brazilian Software Association. The market is expected to grow by 8.2% in 2022. Brazil is ranked as the 10th largest IT market in the world. It makes up 40% of the Latin American market. And while much of the world is struggling with a shortage of skilled workers, it is less of a challenge to find skilled software development professionals in Brazil.

Vietnam – small but strong outsourcing destination

Vietnam currently ranks sixth in the GSLI. It is one of the fastest-growing economies in the Asia-Pacific region. The country's transition from low-tech manufacturing to a service-oriented economy has transformed it from one of the poorest nations in the world to a major economic power. Vietnam's average economic growth rate of 5.4% is expected to surpass larger competitors such as China and India in the coming years.

Vietnam is also becoming an increasingly popular destination for outsourcing. In the first half of 2022, the revenues of the information technology and communications (ITC) industry had an estimated value of €72 billion, which was a 17% increase from the same period last year. Vietnam is ranked as the eighth country in the world for high-technology exports.

Despite having very few high-tech companies 20 years ago, Vietnam is now home to 67.3K information technology businesses, with cities such as Hanoi, Ho Chi Minh City, and Da Nang being particularly known for their vibrant startup atmosphere. These cities have developed a robust tech ecosystem with excellent infrastructure and respected universities that deliver 55K IT major graduates every year.

Vietnam's sustainable growth, enormous talent pool, incentives packages, and heavy investments in education have made it one of the top 50 digital nations in the world. The country is ranked 25th in Tholons Global Innovation Country Index, and Hanoi and Ho Chi Minh City are both included in the top 100 "Super Cities" ranking, appearing in 50th and 58th positions, respectively.

However, just like Brazil, Vietnam will have to invest more in digital resonance if it wants to keep its place in the top ten in the coming years.

> **Tips:**
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> Invest in country branding. For more information on this topic, see our tips on doing business with European buyers.
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> Compete on skills, not on price.

What companies are you competing with?

Examples of AI and/or ML software providers are:

Agile Tech

Agile Tech is a Vietnam-based software development outsourcing provider. They specialise in big data services relating to website/mobile apps, blockchain services, and AI. They have been a successful technology partner for many startups since 2015. Startups have paid millions of euros to Agile Tech to develop the technology behind their startup ideas.

Neotaric

Neotaric is based in Poland. They specialise in AI and ML software development. They offer a range of services: they can build a new digital product, develop an existing one, or introduce generative AI to a client's business. They excel in the newest applications of AI and ML technology, including generative AI.

NEUON Artificial Intelligence

NEUON is a Malaysia-based AI company. They specialise in computer vision, machine learning, and internet of things. They sell their own in-house, customised deep neural network models. They specialise in solutions for computer vision-based pattern recognition problems. They have a tailor-made face recognition model that works on solving the face recognition challenges that we face in our multiracial society with various face feature differences.

Tips:

The above companies teach us that you need to emphasise the skills of your workforce and the solutions your AI/ML technology offers. You must also step away from being a bulk destination and display your best work (portfolio) on your website. This specialisation will create opportunities.

Search company databases to find more competing companies. Some of these databases are free, such as company.info. The different Chambers of Commerce (such as the Dutch *Kamer van Koophandel* in the Netherlands) makes paid databases available. There are also commercial databases, such as Bold Data. Identify which databases match your search best and use them to create a list of potential customers to target.

Which products are you competing with?

Unless you are selling your own AI or ML software development solutions directly to the European market, your product is the service you offer. So, the real question here is: what makes one service provider different from another? The answer is broad. Service providers differ from each other in their technical knowledge, available capacity, references, domain knowledge, flexibility, reliability, communication and language capabilities, quality management, security infrastructure, vertical and/or horizontal market focus, niche market orientation, etc.

Most AI or ML software development solutions come with other IT-related tasks. They require software updates, routine maintenance, and continuous strategy for the development and implementation of new features. If you can offer to take care of these tasks continuously so that the users of your product can focus on their core business, that will make you stand out from your competition.

There is space in the market for innovation and for the development of your own AI or ML products. It is a challenging market, and it might not be suitable for the smaller companies, but there are good opportunities for

companies that want to develop and sell their own innovative product. Developing AI/ML products is quite complex, because as well as software development, you need to have specific scientific capabilities, such as a good understanding of data science, deep learning, neural networks, and statistics.

However, there are successful AI/ML startups on the market. See, for example, these lists of AI startups from Indonesia and Egypt, and these ML startups from Uganda.

> **Tip:**
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> Look at lists of successful AI or ML startups. There are lists that name the top AI startups that received the largest checks from investors in 2021, for example. Or look at the Top AI startups in 2023.

4. What do Artificial Intelligence and Machine Learning software development services cost?

Price is one of the main reasons for European companies to outsource their AI and ML software development to companies in other countries. Salaries make up a large share of costs in AI and ML software development. The average annual salary of a software developer in Western Europe lies around €56,000. In offshore destinations, the salaries are usually significantly lower. This means that outsourcing to countries where wages are lower can lead to considerable cost savings.

> **Tips:**
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> Study average prices in reports such as those by Cleveroad, IT Jobs Watch or Pricing Solutions. Also, research the average salaries for various roles in your work process via platforms such as Payscale. Analyse your costs and profit expectations to calculate your price and find the right price for your service.
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> Download the free whitepaper by Grid Dynamics about Offshore Developer Rates: Where To Hire Remote Developers to read more about pricing and price models.

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

Please review our market information disclaimer.