



## [Offering big data services in North-western Europe](#)

An increasing number of European companies are adopting big data services, as the insights big data can generate offer good business opportunities. Northern and Western European markets are especially promising. The European IT-skills shortage stimulates the outsourcing of big data services. You can offer your own big data services, or provide big data services for a European partner.

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## 1 . Product description

### What is big data?

Big data refers to data sets so large that they can be difficult to manage with traditional data processing applications. Commonly used software tools cannot process big data within a reasonable timeframe.

The main characteristics of big data are the four Vs:

- volume - large data sets
- variety - from different sources and in different forms
- velocity - collected or analysed at high speed, in near real time
- veracity - trustworthy

Another important V is value. To maximise the benefits of big data, it should be properly:

- collected
- structured
- stored
- analysed
- harvested
- displayed

The patterns and correlations big data analytics reveal can benefit almost any industry. Companies can use the generated information to make decisions, improve productivity or develop innovations. For example:

#### Customer intelligence

- Online retailers can get instantaneous analytics feedback on their online selling activity.
- Big data can provide real-time customer responses to special promotions.

#### Quality management

- In manufacturing, big data analytics can minimise performance variability and quality issues. This can significantly reduce scrap rates and decrease time to market.
- Identifying disruptions to the production process can save significant amounts of money on equipment or machinery. It can also reduce labour expenditure on unplanned maintenance and repairs.

#### Risk management

- High-performance analytics can integrate 'risk silos' into company-wide risk profiles, for example in the financial services sector. This minimises the dangers of separate departments that manage risks in isolation.

#### Performance management

- By monitoring and forecasting staff performance information, departments can link strategic objectives with service-user outcomes. Using predictive key performance indicators (KPIs), balance scorecards and dashboards can lead to operational benefits.

#### Fraud detection

- High-performance analytics can improve the scope and accuracy of fraud prevention, realising cost savings.

## Why do European companies outsource big data services?

### Cost reduction

[For 60% of executives, cost reduction is their main reason for outsourcing IT.](#) This confirms that cost reduction continues to be the main driver for European companies to outsource IT services like big data services.

As European companies prefer a simplified pricing model, fixed price is the usual type of contract for big data services. Except for support services, where pricing in time and material is more common.

#### Tips:

- Offer competitive pricing, but do not compromise on the quality of your services.
- Be transparent in your pricing: avoid hidden costs.
- Maintain a fixed price model, except for support services.

## Ability to cope with large volumes of data

One of the main reasons for European companies to use big data services is the need to cope with large volumes of data. Your big data solutions should be able to manage:

- the fluctuating pace at which data flows in from various sources

- the different ways the data is processed - in batches, near-time, real-time or streams

For example by using tools for:

- batch processing - parallel processing large sets of data across clusters or services
- real-time processing - processing large volumes of high-speed data, as they come in

### Tips:

- Offer big data services that can handle high-speed data and real-time data analysis.

## Quality is key

Another key aspect is the quality of the data and the insights it generates. Data quality is of increasing importance in big data analytics, now that data is collected from various sources. As well as accuracy and reliability, the quality of big data depends on its usefulness for the company in question.

For example, a company can use big data insights to:

- improve conversions
- make better cross-selling recommendations
- increase sales volumes

This means specifications for what makes a successful big data project vary greatly depending on the:

- industry
- market
- project goal

### Tips:

- Focus on the usability of your big data services. Show potential buyers how your big data services provide insights that can help them reach their goals.
- Give examples of how your big data services have provided other companies with good insights. Provide references, testimonials and examples of recent work, preferably on your website.
- Offer a pilot project. This allows you to show your skills in collecting useful data and processing it into qualitative information.

## 2 . What are the challenges when it comes to outsourcing big data services?

### Data security

Data security is of the utmost importance to European companies. This is especially relevant to outsourcing big data services, as service providers may have access to sensitive project and company information. Centralised data storage can also make data more vulnerable to hacker attacks. The size of the dataset in a big data projects can make security measures complex.

European companies generally perceive offshore data security to be of inferior quality. [The European Union currently considers data to be appropriately protected in a select number of countries:](#)

- the 28 countries of the European Union
- the three countries inside the European Economic Area - Iceland, Liechtenstein and Norway
- countries with “adequate” data protection laws - Andorra, Argentina, the British Islands, Canada, Faroe Islands, Israel, New Zealand, Switzerland and Uruguay, as well as the United States of America (limited to the [Privacy Shield framework](#))

This makes it even more important for you to show potential European buyers that your big data services are secure.

### Tips:

- Provide clear information about your company’s data security and privacy measures.
- Invest in a secure, reliable infrastructure.
- Apply for security standards like the [ISO 27000-series on information security](#) to support your commitment to data security.
- Make sure you comply with [European data protection rules](#). Look at the requirements section for more information.

## Clear communication

Good communication between customer and service provider is essential to providing big data services. Unclear communication may cause misunderstandings and disagreements, which can lead to disputes with your buyer.

Providing useful big data services begins with defining:

- what the data should provide insight into
- for what purpose the generated insights are to be used

When analysing big data, you must be able to clearly communicate the valuable insights your analysis has generated to your buyer.

The extent of communication with your buyer a project requires depends on the type of contract:

### Fixed

With a fixed price contract you agree on specifications, budget and deadlines in advance. During the application development you keep your buyer up-to-date, but you don’t need to negotiate further. This type of contract is suitable for most application development projects.

### Flexible

More flexible models are Time & Material or Dedicated Team contracts. These are especially suitable for relatively complicated projects. You and your buyer discuss and agree on the specifications of the application during the development process. This also means the budget and deadlines are not set in advance. These types of contracts require intense communication with your buyer.

### Tips:

- Listen carefully to your buyer’s ideas, problems and wishes and thoroughly document

them. Ask questions to better understand what kind of results your buyer wants from their big data.

- Be in regular contact with your customer about the progress you are making.
- Be prepared to communicate with your buyer during their office hours, even if they are in a different time zone.
- If you use a fixed price contract, make clear agreements with your buyer on a structured plan and the expected timeline of the project.
- For more information on the different types of contracts, see Cleveroad's [Types of Contracts in Outsourcing: How to Make a Wise Decision](#).

### 3 . Which European markets offer opportunities for big data services?

The European data market is growing

[Europe's data market reached around €60 billion in 2016](#), after growing about 9.5% annually. This includes information and IT services, as well as companies that sell and buy data. Although the use of big data is more common among large companies, smaller companies are catching on.

Northern/Western Europe is the most promising market

The main European markets for big data services are in Northern Europe and Western Europe. In fact, [Western Europe is the second largest market for big data and business analytics solutions](#) after the United States of America.

[About 70% of the European data market remains concentrated in:](#)

- Germany
- France
- Italy
- Spain
- the United Kingdom

[Northern/Western European companies are far ahead of Eastern Europe in big data adoption](#). On average, around 6% of European companies used big data in 2015. By 2020, this could be up to 13%. Big data use in all Northern/Western European countries is above the European average.

Big data use is highest in:

1. the Netherlands (12%)
2. the United Kingdom (11%)
3. Ireland (10%)
4. Luxembourg (9%)
5. Belgium, Germany and France (8%)

These shares are increasing further in the coming years, with the Netherlands possibly reaching 25% by 2020. Northern European companies are expected to catch up with the top.

#### Tips:

- Focus on Northern and Western European countries, as they have the largest data market.
- Use the [European Data Market Monitoring Tool](#) to study the big data market in your target country. It gives you information like the number of data-user companies per country.

- Further research the big data market in your target country to optimise your offer. For example:  
Study websites of local big data service providers for insights into buyer requirements and current offerings.
- Check websites of trade associations and magazines for insights into market trends and developments.
- Attend relevant industry events, to meet potential buyers and find out their needs.

## Specialisation offers opportunities

The [top sectors for big data services in Europe](#) are:

1. manufacturing
2. finance
3. professional services
4. retail
5. ICT
6. government
7. transport
8. utilities
9. health
10. education

Experts indicate that almost all vertical markets offer opportunities. Specialisation and niche areas are most promising. European companies prefer working with service providers with expertise in a specific service or industry.

### Tips:

- Focus on providing big data services for one or two horizontal and/or vertical markets.
- Focus on a niche market segment, a combination of a horizontal market/technology and a vertical market.
- Look for successful big data case studies in your target sector and learn from them.

## Data collection services/solutions offer good opportunities

Data collection services offer good opportunities, as they are relatively standardised and do not require complicated analytical skills. According to industry experts, both specialising in data collection itself and developing tools for data collection are promising. European companies often start out with a partial outsourcing strategy. Especially when it comes big data services that are essential to their business, they like to keep the final analysis in-house.

### Tips:

- Offer data collection services that make it easier for companies to make their own final analysis and base a strategy on this.
- Make sure that whatever type of big data services you offer, you fully understand the

process.

- Do not make promises to your customers that you cannot live up to. If you start with 'simple' big data services like data collection, you can develop more complicated services later on.

## 4 . What trends offer opportunities on the European market for big data services?

### Digital skills shortage

There are around 6 million data workers in Europe who collect, store, manage or analyse data as their primary activity. This number is expected to increase to 7.1 million by 2020. However, finding experienced data analysts is difficult. Finding those with the necessary skills to interpret and analyse big data is even harder.

There is a considerable lack of IT training, certification and experience in the European workforce. Due to rapid technological innovations, the skills of IT-graduates do not match the needs of the market. This means, [there may be a shortage of 400,000 data professionals in Europe by 2020](#).

The [most required big data skills in 2018](#) include:

- Hadoop
- NoSQL
- data visualisation tools
- Spark
- programming languages (Python, Java, etc.)
- SQL

### Tips:

- Promote your company's professional expertise and experience in big data services. Use references to support your message.
- Create unique datasets and present the data in a way that is useful for the company.

## Continuous technological innovation

New technological developments create new opportunities for big data services. For example:

### Hadoop

Hadoop is an open-source software framework for storing and processing large data sets on clustered hardware. It has transformed from a batch analytics processor to a full-featured data platform. Hadoop currently plays a key role in defining and sustaining the big data movement. However, many competing analysis platforms are emerging. For example Pachyderm, Spark, Google BigQuery, Presto or Hydra.

### Internet of Things

This refers to (everyday) objects that are connected to the internet and often to each other. Every year more "things" are connected, with around [6 billion connections expected in Europe by 2020](#). Each of these connections generates data that is added to the big data mountain. This increases the

opportunities for big data services.

## Big data apps

Big data applications are relatively new in the big data field. Software firms are expected to develop big data applications, designed to bring the power of big data analytics to the masses. The idea behind it is to reduce the dependence on highly trained, highly paid data scientists.

## Cloud computing

Big data environments require clusters of servers to support their processing tools. Cloud computing offers a cost-effective and scalable way to support these big data technologies and their advanced analytics applications. This leads companies to increasingly use cloud-based big data services, instead of building expensive data warehouses themselves. Forbes predicted [Big Data as a Service \(BDaaS\) to be the next big thing](#) and indeed, industry experts confirm a growing market.

### Tips:

- Always stay informed about the latest trends and technologies, as big data is a fast moving market where new technologies emerge quickly.
- Keep your Hadoop-skills up-to-date, as it is currently the most important analysis platform for big data.
- Offer big data service applications that allow companies to become less dependent on expert data scientists.
- Look at cloud computing as a structure to support your big data services.
- For more information, see our studies on [cloud computing](#), the [Internet of Things](#) and [mobile applications](#).

See our study about [trends on the European outsourcing market](#) for more information on general trends.

## 5 . What requirements should big data services comply with to be allowed on the European market?

### What legal and non-legal requirements must you comply with?

#### General Data Protection Regulation

Europe's new [General Data Protection Regulation](#) (GDPR) has come into effect on 25 May 2018. This regulation is designed to protect individuals from privacy and data breaches. Under the GDPR, any company or individual that processes data is also responsible for its protection. It applies to all companies processing the personal data of persons in the EU, regardless of the company's location. This means it also applies to you directly.

The personal data this regulation protects can range from a name or email address, to bank details, social media content, a photo or an IP address. Some key consumer rights you must comply with include consent, right to access, data portability and the right to be forgotten. You also need to practice privacy by design, meaning data protection should be included from the onset of designing systems.

### Tips:

- If you process data of people in the EU, regardless of where you are in the world, make

sure you comply with the GDPR.

- For more information on the GDPR (and other European legislation), see our study about [buyer requirements on the European outsourcing market](#).

## What additional requirements do buyers often have?

### Certified Analytics Professional

[Certified Analytics Professional](#) (CAP) is a relatively new certification for the big data industry (spring 2013). As the premier global professional certification for analytics practitioners, it provides a structured way of defining quality for data scientists.

#### Tips:

- Apply for CAP certification via [Earn the CAP](#).
- To obtain CAP certification, you have to pass the exam at a [local test centre](#).

### Voluntary data security ISO standards

Data security is one of the main challenges for service providers. This includes both data protection and recovery systems. Many European buyers expect you to have information security and management systems in place. Especially in industries where security is essential, such as finance and banking or mobile applications. The [ISO 27000-series on information security](#) contains common standards for information security.

#### Tips:

- Make sure you have effective security processes and systems in place. From business-continuity and disaster-recovery to virus protection.
- Ask your buyer to what extent they require you to implement a security management system like the [ISO 27002 code of practice for information security](#).

See our study about [buyer requirements on the European outsourcing market](#) for more information.

## 6 . What competition do you face on the European big data market?

Competition on the European big data market does not differ significantly from the outsourcing market in general. See our study about [competition on the European outsourcing market](#) for an overview. Also refer to our [top 10 tips for doing business with European buyers](#).

### Nearshoring more popular than offshoring

European companies prefer to outsource services to providers within the same country (onshoring). When outsourcing abroad, they prefer nearshore locations because of:

- proximity

- language
- cultural similarities
- little or no time difference.

These are usually Eastern European countries, due to their relatively low wages. For example:

- Poland
- Bulgaria
- Romania

However, prices in nearshore countries are rising. This makes service providers in these countries less competitive for offshore service providers. That means you can either form subcontracting partnerships with them, or compete with them.

[Offshoring destinations with the strongest potential](#) are:

- India
- China
- Malaysia
- Indonesia
- Brazil
- Vietnam

### 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 only compete on price, but also analyse what other advantages you can offer. For example access to skills, specialised industry expertise or around-the-clock operations (24/7).
- Research what your competitors are doing right and wrong. This can help you differentiate yourself from them.
- Partner with nearshore service providers, as Eastern European companies are looking for cheaper destinations. Many service providers in developing countries have not yet recognised this opportunity.

## 7 . Through what channels can you get your big data services on the European market?

### Subcontracting by European service providers

Subcontracting by European service providers is your most realistic market entry channel. It means that European service providers subcontract big data assignments to you, that end user companies have contracted to them.

### Tips:

- Decide on a business model. Either develop your own big data services, or focus on providing services for a European partner.
- Target service providers whose size is in line with your capacity.

- Focus on companies that serve the same industries as your company.
- Attend relevant industry events in your target country to meet potential partners. This also allows you to learn more about their business culture. For example [Big Data & Analytics Innovation Summit](#) in the United Kingdom, [Big Data Spain](#) in Spain and [CEBIT](#) in Germany.
- Use industry associations to find potential customers in Europe. For example [Bitkom](#) in Germany, [Nederland ICT](#) in the Netherlands and [UKITA](#) in the United Kingdom.
- National outsourcing associations can also be interesting sources to find potential customers. For example [Global Sourcing Association](#) in the United Kingdom, [Outsourcing Verband](#) in Germany and [Platform Outsourcing](#) in the Netherlands.
- Develop good promotional tools, such as a professional company website and a company leaflet. Also invest in Search Engine Marketing, so potential customers can easily find your company online.

## Intermediary

You can approach European service providers and end users of big data services directly, or through an intermediary. A local contact person is an advantage, especially if you are located in a lesser-known outsourcing destination. Intermediaries, such as a consultant/matchmaker or sales/marketing representative, can therefore be an important channel to establish contact with potential buyers.

See our study about [market channels and segments on the European outsourcing market](#) for more general information. Also refer to our study on [finding buyers in the European market](#).

## 8 . What are the end market prices for big data services?

Price is the main reason for companies in Europe to outsource big data services to developing countries. Staff salaries make up a large share of the costs of IT services. This means outsourcing to countries with lower wages can lead to considerable savings. For example, the average annual salary of a software developer in Western Europe is between €36,000 and €50,000. In offshore destinations, this is usually significantly lower.

### Tips:

- Research the average salaries for software developers in your European target country. For example via [Payscale](#), a global database for salary profiles.
- Emphasise the potential salary savings in your marketing activities.

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