



CBI Product Factsheet: Mobile applications in Eastern Europe

'Practical market insights into your product'

Eastern Europe is changing from an outsourcing destination into an outsourcing IT source market, especially for software development. Mobile applications are a rapidly developing segment within the software development market and one of the fastest growing. Eastern Europe can offer interesting opportunities for companies that can offer attractive pricing and/or are culturally close to Eastern Europe. For companies from developing countries (DCs), the best chances lie in subcontracting of services, via an intermediary or by a direct approach.

Introduction

This product factsheet (PFS) focusses on Eastern Europe which in this study includes Estonia, Latvia, Lithuania, Poland, the Czech Republic, Hungary, Romania and Bulgaria. These countries were recently seen mainly as outsourcing destinations, but within the last few years have increasingly become important outsourcers themselves. Also in Eastern Europe, the market for mobile applications is growing exponentially and, therefore, can offer good opportunities for mobile application service/solution providers in DCs.



Product Definition

Mobile applications ('apps') are software applications designed to run on mobile devices, such as smartphones, mobile phones, tablets and digital assistants. They are small, individual software units with limited functions. Simple mobile apps are a transformation of PC-based applications to a mobile device. A more sophisticated way is to develop apps that are specifically designed for the mobile environment.

Mobile apps can be divided into four kinds of apps:



- **Native mobile apps:** mobile applications that are coded in a specific programming language such as Java for Android and Objective C for iOS. They are fast, reliable and have access to a device's various functions, such as its camera and address book. Native apps can sometimes be used without an internet connection. This type of app is expensive to develop because it is only working on one type of platform.
- **Hybrid apps:** these apps have so-called cross-platform compatibility while they can still access a phone's functions.
- **Dedicated web apps:** websites that are customised to work on a mobile device. They work on one specific platform. An example is the LinkedIn web app designed for Android and iOS, but not for other smartphones.
- **Generic mobile apps:** mobile websites that work with all smartphones.

Mobile application services/solutions can be managed within a company (in-house) or outsourced, which means that they are delegated to external service providers. Outsourcing can take place:

- **Onshore:** to providers within the same country (onshoring).
- **Nearshore:** to foreign providers within the region (nearshoring). For example: Central and Eastern EU countries and North African countries for Western Europe, and Canada and Mexico for the United States.
- **Offshore:** to foreign providers outside the region, typically overseas (offshoring). For example: Asian and Latin American countries for Western Europe, and Africa and Asia for the United States.

Product Specifications

- **Price:** price is by far the most important driver behind mobile application outsourcing from Eastern Europe. The main objective is to reduce costs. Since these countries have joined the EU, price levels have been going up each year and outsourcing to lower wage countries can accomplish significant cost savings. Just like in Western Europe, the fixed pricing model is the most commonly used pricing model, although monthly payments and working with freelance contracts is also widely spread.

CFA¹: Focus on competitive pricing while maintaining high quality services.

CFA: Be flexible in your pricing model.

When your location is attractive enough when it comes to pricing, the following product specifications are also important:

- **Technical skills:** access to specific knowledge, expertise and tools is important for companies from Eastern Europe that are looking for an outsourcing partner. All software has bugs and, according to EU companies, one of the most significant differences between a good and a bad programmer is how they handle fixing the bugs that pop up in their code.

CFA: Eastern EU like to know that you are able to handle the project. They will most likely ask you for examples of (similar) recent projects. Therefore make sure you have references, testimonials and examples of recent work available, preferably already on your website.

- **Operating systems:** Eastern EU companies are often looking for expertise in certain operating systems like Android, Blackberry, iOS or Windows. They understand developers rarely excel in all operating system.

CFA: Clearly state in which operating systems you excel. Be honest about your experiences and skills, do not raise expectations you cannot live up to.

¹ Consideration for Action

- **Clear communication:** developing a good mobile application starts with defining what the app should be and do. So developing a custom mobile application is all about good communication between customer and developer.

CFA: Listen carefully to your customers' ideas and wishes, take detailed notes and ask thoughtful questions to better understand what your customer wants. Ask him to prepare a clear description of what kind of mobile application he wants you to develop, a short list of key features the app must have, a prioritised list of optional nice-to-haves and to provide some examples of similar apps that he likes.

CFA: Be in regular contact with your customer about the progress you are making and be ready with a list of questions you might have to ensure you are both on the same page with the project.

- **Data security:** data security is of utmost importance to companies in Eastern Europe, especially because most software developers have access to sensitive project and company information.

CFA: Offer insights on data security/privacy measures that protect data that is used in mobile applications.

CFA: Apply for security standards to support your commitment on data security and privacy and/or offer the possibility to sign a Non-Disclosure Agreement.

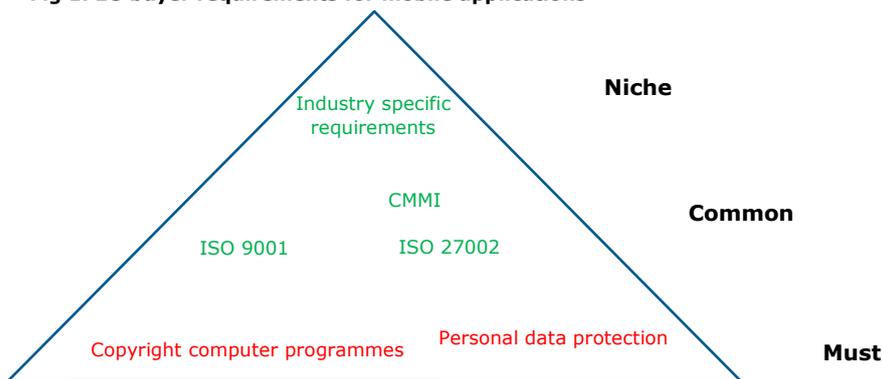
Buyer requirements

Buyer requirements can be divided into:

1. Must: requirements you must meet to enter the market, for example legal requirements.
2. Common: requirements you need to comply with to keep up with the market.
3. Niche: requirements for specific segments.

Figure 1 gives an overview of EU buyer requirements for mobile applications.

Fig 1: EU buyer requirements for mobile applications



Must

- **Copyright computer programmes:** the EU established specific rules to protect computer programs by means of copyright (Directive 2009/24/EC and Directive 2001/29/EC). The legislation aims to ensure certain security against unauthorised reproduction of computer programs and applies to all computer programmes marketed within the EU, including imported programmes. The legislation therefore also affects businesses in non-EU countries that supply EU companies.

CFA: Refer to [EU legislation: Copyright of computer programmes](#) for more information.

CFA: Although the EU legislation applies in all Member States, the quality of enforcement differs per country. For specific information about the copyright computer programmes legislation in your target country, refer to the relevant competent authority in that country.

- **Personal data protection in electronic communications:** the EU regulates the protection of individuals with regard to the processing of personal data and on the free movement of such data. Providers of technical services regarding electronic communications to EU companies have to take into account the EU legislation on personal data protection (Directive 2002/58/EC and 95/46/EC).

CFA: Providers outside the EU can be held responsible for violations of EU data protection requirements. It is therefore important that you comply with the EU legislation on personal data protection. Refer to [EU legislation: Personal data protection in electronic communications](#) for more information.

Common

- **ISO 27002:** ISO 27002 is the standard governing information security and management. It provides the industry approved model for an Information Security Management System (ISMS) and addresses the confidentiality, integrity and availability of information within an organisation.

CFA: As data security is a main challenge in mobile applications that are data security and privacy sensitive, adopting the ISO27002 standard is strongly recommended for providers of such mobile applications. Refer to <http://www.27000.org> for more information on the 27002 standard.

- **ISO 9001:** ISO 9001 is an important standard for service providers. The ISO 9001 standard represents requirements for the development and implementation of quality management systems in an organisation.

CFA: ISO 9001 is one of the best known quality standards among Eastern EU companies. Applying for ISO 9001 is therefore recommended. Refer to the website of [ISO](#) for more information.

- **Capability Maturity Model Integration (CMMI):** ensuring world-class quality and service delivery is an increasingly important access requirement for offering global sourcing solutions. Using the worldwide adopted CMMI model (in which you can achieve a 1-5 level rating) is a good way of proving to your customer that you are able to deliver the required service quality.

CFA: CMMI is less well-known than ISO 9001. However, it might help in gaining trust and proving your capabilities. Refer to the website of [CMMI Institute](#) for more information about the CMMI certification process.

Niche

- **Industry specific requirements:** there are also industry specific certifications or best practises that can be even more important than the above-mentioned general standards/certifications, depending on the industry the mobile application will be used in. Examples are Basel II and III for the finance and banking industry, HL7 and HIPAA for the healthcare industry or PCI DSS for the payment card industry.

CFA: If you provide mobile application services/solutions for a specific industry, research the availability of industry specific certifications/standards and consider applying for them. However, this has to be researched by industry. Industry associations can be a good starting point to look for them.

For information on ITO buyer requirements in the EU market in general, refer to CBI's 'EU Buyer Requirements' for ITO.

Trade and Macro-Economic Statistics

Mobile application market

- **EU mobile application spending represents 30% of the global market:** EU spending on mobile applications (including user spending and advertising), totalled €6.1 billion in 2013, which is 30% of the global market. By 2018, this is estimated to grow to a staggering €18.7 billion (a smaller 27% of the global market), according to the Eurapp study. Most of this spending comes from Western Europe according to industry experts, but no exact figures are available.
- **Business opportunities for mobile applications exist in all markets:** industry experts indicate that all horizontal and vertical Eastern EU markets potentially offer business opportunities for mobile application service/solution providers from DCs. They do recommend that DC suppliers specialise in one or a few horizontal or vertical markets, and/or that they focus on upcoming new technologies as opportunities lie predominantly in specialisation and niche areas.

CFA: Specialise in (a few) horizontal markets, vertical markets or upcoming new technologies as the Eastern EU mobile application market is looking for specialised or niche mobile application service/solution providers.

- **Market for mobile devices continuous to grow rapidly:** smartphone sales and app downloads have increased exponentially over the last five years. In 2017, the smartphone penetration in Central and Eastern Europe is expected to reach 50% (compared to 38% in 2014). The highest smartphone penetration rate in the world can be found in Western Europe (80% in 2017 against 70% in 2014). North America has the second highest rate (65% in 2014 and 71% in 2017). The adoption of smartphones and tablets is shifting the IT system towards mobile and apps and thus is driving demand for mobile applications. The growth of smartphone penetration is expected to be higher in Central and Eastern Europe compared to Western Europe as the Western EU market is reaching saturation, which slows down growth.

CFA: Research the mobile application market in your target EU country to optimally adjust your offering. For example: study websites of Eastern EU mobile application solution/service providers to gain insights into buyer requirements and current offerings, check websites of trade associations and magazines to gain insights into market trends and developments and attend relevant industry events to talk to potential buyers and find out their needs.

- **Leading operating systems:** Android is the most popular operating system (OS) in Europe (56%). iOS is another important player that holds almost one-third of the market (33%). Windows Phone (3,5%), BlackBerry OS (3,2%) and Series 40 (1,8%) are other OS in Europe. There are also new operating systems coming to the market. It is currently unclear which new OS will become important players, but it is very important to keep an eye on the developments in this part of the mobile application industry.

CFA: Specialise in two or more leading operating systems and stay informed about the developments in new operating systems that are emerging.

Mobile application outsourcing market

- **Application development outsourcing:** even though IT outsourcing to providers in other countries is not yet common practise in Eastern EU countries, the market is on the rise. Of all IT outsourcing from Eastern Europe, software development (including mobile application development) is the most outsourced according to industry experts. This is because software development is becoming relatively expensive in some Eastern EU countries and because the talent pool of software developers is large, but increasingly not large enough.

- **Outsourcing destinations:** the most popular outsourcing destination for Eastern EU companies are companies within the same region, but that are not (yet) part of the EU and/or have a lower salary level. For offshoring, India is the most common outsourcing destination. However, Eastern EU companies prefer to work with companies within the same region.

CFA: Limit the possible disadvantages of being offshore by providing excellent means of communication, availability in the required time zone and good security and privacy measures.

CFA: Differentiate yourself from onshore providers to remain competitive and emphasise how you are different in your marketing message. Do not only focus on price difference but analyse what other advantages you can offer. You can sell for example your location as an advantage for 24 hour round operations or you can specialise in a specific vertical or horizontal market.

CFA: Benchmark your competitiveness against onshore ITO providers and analyse their best practices. Using your competitors as resources can help you discover what they are doing right and sometimes also what they are doing wrong. This can help you identify ways to differentiate yourself from them.

Market Trends

Social drivers

- **Conservative mentality:** one of the biggest challenges for companies which are trying to set foot on the IT outsourcing market in Eastern Europe is the conservative mentality of the region, where most business relationships are built on trust, friendship, political and personal influences. Your personal network is, therefore, crucial for any kind of business.

CFA: Try to conform to the business etiquettes that are used in your target country, and which you can search on the internet, for example, at <http://businessculture.org>.

- **Social media:** social media play an important role in mobile application use because social media platforms are often accessed through mobile devices. The use of social networks is rising in Eastern Europe, quicker than in Western Europe, as the market in Western Europe has come close to saturation point. The use of mobile applications for social platforms is rising even quicker, therefore, this market segment can be an interesting segment to focus on.

CFA: Create an overview of the leading social media platforms in your EU target country and gather experience in the usage of mobile applications for these platforms.

Technological drivers

- **Technology has enabled the use of visual content:** technology advances in network bandwidth, storage and photo and video-enabled devices have enabled a widespread proliferation of visual content. This trend has enabled the development of mobile applications that make use of photo and video.

CFA: Stay up-to-date with developments in visual content technology and applications and how they can be used in mobile applications. You can look at new applications in app stores and try and test them.

- **Wearable technology is coming:** it is expected that in the next few years wearable devices such as [smart watches](#) and [smart glasses](#), will become more common. In the development of applications for such devices the glance ability of content is an important aspect.

CFA: Specialisation in apps dedicated to wearable technology may offer good opportunities as this is a new market where though competition has not been established yet. In case you choose for a certain specialisation, use this in your marketing message.

- **'Internet of Things':** the term 'Internet of Things' refers to machinery and appliances, devices, sensors, cars, cameras and other items that are connected to the internet and often to each other. Every year there are more and more items connected to the internet. Regularly, the connection of such items to the internet goes hand in hand with the launch of apps to monitor and/or operate such devices.

CFA: Specialisation in apps dedicated to a specific device or technology may offer opportunities as competition tends to be lower in specialised markets.

- **Increasing availability of 4G:** 4G coverage is expanding, along with enhancement in quality of service (latency, capacity and speed). As this is continuing, it will allow cloud services to be leveraged by apps and app functionalities can become richer. Source: The EU App Economy. The mobile data average connection speed in Central and Eastern Europe is expected to reach 4,760 kbps in 2017. This is less than Western Europe (7,013 kbps) and North America (14,399 kbps), but more than in Asia-Pacific (3,036). According to Cisco VNI Mobile Forecast.

CFA: Research the availability of 4G in your target country and design your apps accordingly.

- **Big Data:** Big Data is seen as one of the largest trends for IT services/solutions. Currently 90% of the stored data in the world is less than two years old, and this number will continue to grow quickly. Big Data environments are growing fast, they are becoming more complex and dynamic, which results in poor usability and reduced control over applications. There is a large demand in mobile applications that can make use of the large amount of data that is available to companies, or that makes collection and use of this data possible.

CFA: Consider offering Big Data services/solutions in your mobile applications.

- **Cloud Computing:** cloud computing happens when tasks and data are done and stored on remote servers. For mobile (web) applications, cloud computing can have an advantage over more traditional technologies. Experts indicate there will be a large growth in cloud computing. Cloud computing enables (web) application developers to create programs more economically. Because so many mobile users are able to access these applications via their mobile browsers, there is less need for developers to use costly franchises such as app stores. This makes cloud computing an interesting option for developers that consider offering mobile applications services/solutions.

CFA: Consider working with cloud computing services/solutions as it has some interesting advantages, like lower costs and access to a bigger market.

CFA: As a mobile application service/solution provider it is very important to stay informed about the newest emerging technologies as the market is constantly developing. Companies that consider making a difference by offering the newest mobile application products are recommended to innovate and offer new solutions. They should keep an eye on the newest developments in the software industry that can be used for mobile application development, for example by studying the 'Hype Cycle for Emerging Technologies' that is yearly published by Gartner.

Economic market drivers

- **Strong growing demand for B2B apps as they offer cost reduction opportunities:** the ability to manage and view data via mobile devices such as smartphones and tablets have allowed Eastern EU companies to reduce costs and simplify work processes. Also the next few years will be marked by this trend, as Eastern EU companies continue to look for ways to rationalise their activities. As a result, good opportunities are expected in B2B mobile apps.

CFA: Consider offering B2B mobile application services/solutions and if you can, do this in a specific sector, preferably one that you have already experience in (for example healthcare or the logistic industry).

For information on ITO market trends in the EU market in general, refer to CBI's 'Trends' for ITO.

Market Channels and Segments

The most relevant channels to enter the Eastern EU mobile applications market are described below. Subcontracting by ITO companies in your Eastern EU target country is seen as the most realistic for DC mobile application services/solutions providers. Another good option is having a local sales representative. If you develop mobile applications yourself, you could also sell them through application stores (app stores). Starting your own local office in an Eastern EU country is not recommended, unless you are very familiar with the country.

- **Subcontracting by Eastern EU ITO companies:** subcontracting means that ITO providers subcontract work that has been contracted to them by end user companies to other parties. In this particular case they offer mobile applications services/solutions. These ITO providers can look for possibilities to subcontract part of their work to DC ITO providers.

CFA: Make an analysis of your company and Eastern EU target market to choose the most suitable entry channel.

CFA: Target ITO providers of which the size is in line with your own capacity. Focus on companies that serve the same industries as your company to increase your chances to find a potential match.

CFA: Attend relevant industry events in your Eastern EU target country to meet potential partners. There, you also learn more about their business culture.

CFA: Have good promotion material available, such as a professional company website and a company leaflet. Also invest in Search Engine Marketing so that potential customers are able to find your company online.

- **Direct sales to end users:** selling your services/solutions without anyone in between is seen as one of the major mobile application outsourcing trends for 2014, according to ITO News. Direct sales to Eastern EU end users of mobile application services/solutions is therefore another interesting market channel for DC mobile application services/solutions providers. Furthermore, Eastern EU companies are increasingly opening up for international partnerships which can enhance the opportunity of direct sales. However, you need to have profound end market knowledge. Keep in mind that a direct approach is currently easier in Western Europe than in Eastern Europe, as Eastern EU countries are relatively new towards outsourcing.

CFA: Research the end market segment that you want to focus on to know how to effectively market your company.

CFA: Look for potential leads in the field of mobile application solutions/services in online outsourcing market places such as [Odesk](#) and [Elance](#) (freelancers) and

[Ariba](#) and [Hubwoo](#) (corporate). Although they generally involve smaller projects for freelancers and individuals, they could lead to potential pilot projects for companies as well. Furthermore, they are a cheap marketing tool.

CFA: Target end users of which the company size is in line with your company's capacity.

- **Intermediary:** Eastern EU IT companies and end users of mobile application services/solutions can be approached directly or through an intermediary. A local contact person is always an advantage, especially for DC providers that are located in less known ITO destinations, and it is also more recommended if you want to set foot on the Eastern EU market, than for the Western EU market. Therefore, Eastern EU intermediaries such as consultants/matchmakers or sales/marketing representatives can be an interesting market entry channel. Intermediaries generally have a clear understanding of local markets, insights into buyer requirements and large networks.

CFA: If you choose to work with an intermediary, look at the following selection criteria: expertise (it should be in line with your services or vertical market expertise), value and size of the network and references.

- **App stores:** DC companies that develop their own mobile applications can also sell them through app stores. App stores can be seen as market places that bring together mobile application developers and end users. Be prepared that it can take some time before getting App Store approval.

CFA: Developing an app for sales through an App Store is one thing, however, reaching the right audience for your mobile application is another: it will take a lot of time, effort and knowledge of the target markets. Blogs, tweets and Facebook posts about your new app could help improve your sales.

Trade associations, trade events and databases can be good sources to help you find potential customers in Eastern Europe. Examples of such sources are:

- Basscom - <http://www.basscom.org> - industry association of leading Bulgarian software development companies.
- CeBIT - <http://www.cebit.de> - largest IT trade event in Europe, held annually, in March, in Hannover, Germany.
- Central and Eastern European Outsourcing Association (CEE OA) - <http://ceeoa.org> - outsourcing organisation for Central and Eastern Europe. On their website you can find members, ITO events, analytics and more.
- Czech ICT Alliance - <http://www.czechict.cz> - trade association for the Czech ICT sector. In the English version, go to 'Members' for a member overview.
- Czech Invest sector database - <http://suppliers.czechinvest.org> - register for free and go to 'ICT' for a database of companies in the Czech ICT sector.
- Czech Society for Systems Integration (CSSI) - <http://www.cssi.cz> - Czech association that associates companies, institutions and universities and individuals who are delivering or employing information and communication technologies and information services. Go to 'Adresář členů' for an overview of members. They also organise several events in the field of IT, where you can meet potential partners face-to-face. They also publish research, studies, presentations and news articles about the Czech IT market.
- ICT Unie - <http://www.ictu.cz> - trade association for the Czech ICT sector. Go to 'Členové' and select 'Seznam členu ICTU' for a list of members.
- Infobalt - <http://www.infobalt.lt> - Lithuanian ICT association.
- ITL - <http://www.itl.ee> - Estonian association of information technology and telecommunications. You can find a list of members, they hold several conferences and they give other information about the Estonian IT sector.
- IVSZ - <http://ivsz.hu> - ICT association of Hungary. Go to their website for an overview of their members and news and events in and from Hungary.
- LIKTA - <http://www.likta.lv> - Latvian ICT association.

- Mobile Apps Conferences and Events - <http://lanyrd.com/topics/mobile-apps> - shows upcoming and past events about mobile applications.
- Mobile IT - <http://mobile-it.com.pl/en> - mobile solutions and technologies trade event, held annually, in May, in Krakow, Poland.
- PIIT - <http://www.piit.org.pl> - Polish ICT association. Go to 'Catalogue' for a list of members. They also provide a newsletter.
- Riga Comm - <http://rigacomm.com> - IT trade event, held annually, in November, in Riga, Latvia.
- TOP IQ CIO - <http://www.topiqcio.com> - conference for IT managers in the Czech Republic, held annually, in November, in Prague.

You can also look for Eastern EU ITO and mobile application services/solutions providers by searching on search engines like Google. In advanced search, narrow your domain to your target country's extension: '.ee' for Estonia, '.lv' for Latvia, '.lt' for Lithuania, '.pl' for Poland, '.cz' for Czech Republic, '.hu' for Hungary, '.bg' for Bulgaria or '.ro' for Romania.

For information on ITO market channels and segments in the EU market in general, refer to CBI's 'Trade Channels and Segments' for ITO.

Price

Price is the main reason for companies in Eastern Europe to consider outsourcing mobile application services/solutions to companies in DCs. As salaries form a large share of the costs of IT services, large savings can be achieved by outsourcing mobile application services/solutions to countries with a lower wage. The average annual salary of a software developer in Eastern Europe is rising quickly. Software developers' salary levels in nearshore/offshore destinations are usually lower and it is expected that the salary difference between Eastern EU countries and DCs will grow substantially in the next few years.

Field of competition

Refer to CBI's 'Field of Competition' for ITO as competition in the Eastern EU market is based on the same aspects as competition in the ITO market in general.

Main sources

- Central and Eastern European Outsourcing Association - <http://ceeoa.org> - outsourcing organisation for Central and Eastern Europe. On their website you can find members, ITO events, analytics and more.
- CIO - <http://cio.com> - technology magazine, has editions in almost every Eastern EU country.
- Computerworld - <http://computerworld.com> - technology magazine that has editions in various Eastern EU countries.
- Czech Invest - <http://suppliers.czechinvest.org> - investment and business development agency of the Czech Republic. Go to 'Investment opportunities' and select 'IT and software development' for sector information.
- ITO News - <http://www.itonews.eu> - IT outsourcing news portal from Central and Eastern Europe.
- Outsourcing Portal - <http://www.outsourcingportal.eu> - outsourcing portal that mainly focusses on the outsourcing industry in Poland, but also has reports and articles about other countries (mainly in the EU) and an overview of outsourcing events.
- Romania IT - <http://www.romaniait.com> - an Romanian initiative that aims to promote the Romanian IT industry.

For all CBI's ITO related market intelligence documents, go to CBI's '[Market Intelligence Platform for ITO](#)'.

This survey was compiled for CBI by Facts Figures Future in collaboration with CBI sector expert Laszlo Klucs

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