



Competitiveness Assessment of Moldovan IT Services Industry

Follow-Up of 2011/2012 Project

Prepared for USAID CEED II Moldova and
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Executive Summary

- The overall IT market in Moldova (excluding the export of services) reached a total value \$152.55 million in 2013.
- The market is still heavily hardware centric, with software and IT services accounting for marginal shares of total internal spending, at 12%, respectively 15%.
- Local IT services spending did not grow substantially in the past three years, from around \$17 million in 2009 to just over \$22 million in 2013, representing average annual growth of about 5%.
- We expect internal IT services spending to grow moderately, at a compound annual growth rate (CAGR) of 6.8% during the five-year forecast period, to reach approximately \$31 million in 2018.
- The export of services including IT, research and development (R&D), and business process outsourcing (BPO) from Moldova was valued at approximately \$57 million in 2013. This market is expected to double to over \$110 million by the end of the forecast period.
- The internal market is heavily dominated by local IT vendors, as international vendors consider current local market still too small, despite its good dynamics (better than EU CEE countries, but lower than most former CIS countries such as Ukraine, Belarus, Russia or Kazakhstan). In order to set up offices that service local market, international IT players need to make significant financial efforts that cannot be covered by potential medium term wins; moreover, they feel that, given the underdevelopment of the market and the pressure on prices, they cannot compete with local IT Services providers who are able to offer better prices due to much lower initial investments. As a result, they prefer to serve Moldovan market from nearby offices such as Romania, Ukraine or Russia.
- Current and future investments in Government IT will represent the main driving force in the Moldovan IT Services market in the near future. In the case of such contracts, that are bound by World Bank regulations and have significant values, international vendors (including Romanian Companies) have a significant opportunity to extend their activities on the Moldovan market, as they are much better positioned to win such tenders. The special requirements related to financial capabilities and previous experience in similar large contracts that make it almost impossible for local players to qualify as potential candidates, give a huge advantage to regional or international IT services players willing to enter the Moldovan market.
- To actualize this potential, the Moldovan government should continue promoting its IT export capabilities to international business communities, as well as supporting both the investments of international players into offshoring/nearshoring captive centers in Moldova and the export of domestic IT services abroad, especially to EU countries, and the U.S.

Overview and Structure of the IT Services Market

Local Spending

Moldova IT Services Market Context

- The current ICT market in Moldova is primarily in a buildout phase, with major investments focused on basic hardware infrastructure, such as server, storage, infrastructure software, and network equipment implementations. In the long term, the IT services market is expected to be driven primarily by large government projects, such as new egovernment initiatives and technology investments in highly competitive sectors (e.g., banking and telecommunications) and initiatives that support the alignment of IT with business goals. The Moldovan government is expected to continue to upgrade public infrastructure, and remain committed to egovernment initiatives aimed at improving the quality of public services. The rise in demand for exports in manufacturing, the growing usage of IT in the finance sector, transformations in the telecommunications industry, and demand in the government sector will fuel IT services market growth.
- Though small, the small and medium-sized business (SMB) segment in Moldova will represent a growing opportunity for IT services providers, due to current low penetration levels. Characterized by a severe lack of IT maturity and a cost-conscious approach to business, SMBs in Moldova remain a difficult market to target in an effective manner. Nevertheless, emerging technologies such as cloud offer a cost-efficient means to capture the opportunity in this segment.
- The IT services market will continue to expand over the forecast period, with operations management recording the highest growth rates due to high penetration levels of outsourcing services, followed by training and education services. However, the Moldovan IT services market face some challenges, including lack of IT skills among both providers and end users, long procurement cycles in government, tightening IT budgets, and problems in project management. The lack of vertical spending diversity is also a potential obstacle, as even underpenetrated sectors such as retail and wholesale have limited potential.
- Overall, the biggest opportunities continue to lie in the government, finance, and telecom verticals. However, verticals like manufacturing and utilities present potentially large wins for IT services project.
- There are numerous inhibitors to the development of the cloud services market in Moldova, the most significant being the low number of cloud services providers, the rather weak range of offerings, and limited market awareness. On the plus side, cloud in Moldova benefits from government support rarely seen in emerging markets in the region.

IT Services Market – Drivers (1)

- **Recovery from the Recession of 2012:** Several indicators show that Moldova has made important steps in 2013 to recover from the previous year's recession. GDP growth in 2013 accelerated to 6.0% year on year. In addition, the growth in the first half of 2014 was up to 4.9%. Manufacturing grew by 9.4%, while investments in road infrastructure and construction stimulated an expansion of output by almost 18% in 2013. Consumer expenditures was the main growth driver of the total expenditure which grew by 5.8% in 2013, fueled by remittances and wage growth. The economic recovery will lead to the creation of new businesses and increased budgets, some of which will be allocated to IT.
- **Government Cloud:** The government of Moldova has implemented the M-Cloud platform based on cloud computing technology. This project will have a huge impact on all central administration, resulting in substantial cost reductions and more efficient internal processes.
- **ICT Infrastructure:** Several international reports and statistical indicators show that Moldova has a quite competitive ICT infrastructure, including the relative cost of broadband and international Internet bandwidth. This has a positive impact on the access to the internet for both private customers and entities in the growing SMB sector.
- **Hardware Market Growth:** Accounting for the majority of IT spending (over 70%), PCs, servers, networking equipment, and peripherals are the main drivers of the IT market, automatically generating demand for software and related IT services such as installation, configuration, and customization.
- **Inexpensive Workforce:** Statistics show that Moldova has one of the cheapest workforces in the region. From the potential investors' perspective, this is definitely a competitive differentiator, and the country is thus still an attractive destination (especially for offshore services). Combined with improvements in the education system and business environment, a low-cost workforce contributes to the local IT industry's competitiveness.
- **Competitive Telecommunications Sector:** The telecommunications sector in Moldova performs well in terms of geographic coverage, both for wired and wireless technologies. Despite the fact that mobile services are still rather expensive in the country, the mobile penetration rate is constantly increasing. This will drive spending on content services, thus opening new opportunities for independent software vendors involved in mobile application development.

IT Services Market – Drivers (2)

- **Free Zones and Other Tax Incentives:** Although not specifically tailored for the IT industry, free zones offer fiscal incentives for registered residents, including value added tax (VAT) and excise exemptions. Free economic zones offer investors preferential customs treatment, investment protection from the state part, legislative provisions for 10 years as well as several tax advantages such as Zero VAT and exemption from excise payments, total exemption from income tax derived from export of goods for 3 or 5 years (depending on the initial investment), or 50% exemption from tax rate from income derived from exports and 25% from income derived from other activities.
- **Special Fiscal facilities for Software Companies.** Moldovan Government is supporting the increase in competitiveness of its locally developed software products by offering special fiscal facilities to software development companies and their employees. Such companies can apply for a five year exemption from corporate income tax if income from Software Development is higher than 50% of the company's sales, the company has no fiscal liabilities to the budget; this fiscal facility is only granted once. Until 2016, social security payments made by the company are limited to 1943.5 MOL/month/employee (this is the approximate amount paid for 2 average salaries in Moldova); also, the maximum taxable income for each IT employee is limited to 2 average salaries/month.
- **Virtual IT Parks.** The Ministry of Information Technology and Communications has recently taken the initiative to create virtual IT parks which will enable IT companies to benefit from simplified and lower taxing system similar to traditional IT parks, while continuing to work from their offices. According to this draft, IT companies may benefit from the introduction of a single 12% tax from sales (which incorporates all current taxes and fees) as well as exemption from VAT and custom duties on import of computer technology used for production purposes. This initiative is not yet effective, as it still has to be approved by the new Parliament.
- **Unique Geographic Position:** Moldova is bordered to the east by the EU (Romania) and to the west by the CIS (Ukraine), enjoying free trade with CIS states and being authorized to trade on EU markets. This advantage is likely to attract new investors, which will increase IT spending in the local market.

IT Services Market – Inhibitors

- **Lack of Market Education:** Many SMBs in Moldova are still unaware of, or lack confidence in, the clear improvements in efficiency that IT can bring. While vendors are making efforts to educate the market and align their offers to the needs of SMBs, these organizations are still restricting investments to those with immediate and tangible return on investment (ROI), such as machinery, production facilities, and marketing and sales, without realizing how these assets can be complemented by IT solutions.
- **ICT Regulations and Business Environment:** Many international reports show that Moldova ranks very poorly in terms of internal regulations and procedures for running a business. The administrative burden, bureaucracy, and tax system inhibit business development, thus discouraging potential foreign investors from setting up operations in Moldova. This has a substantial impact on the competitiveness of local industries, including the IT sector.
- **Moderate Quality of IT Professionals:** Although the number of IT graduates in Moldova (between 1,800 and 2,000 per year) is mostly sufficient for the internal needs of the IT industry, the percentage of technically qualified individuals is very low. This is because the education system's vocational curricula does not match local requirements.
- **Software Piracy:** The software piracy rate in Moldova remains very high, estimated at about 89% in 2013. No significant progress in reducing the piracy rate has been made in the past four years, which is having a significant impact on the value of packaged software spending and on this industry's contribution to GDP.
- **Public Contracts Limited by Price Sensitivity and Lack of Transparency:** In the public sector, most contracts are awarded on the basis of price, which keeps vendors' profit margins low. Furthermore, transparency levels and fairness regarding tender proceedings have been questioned on several occasions. This serves to discourage bidding by qualified firms, not to mention undermining foreign direct investment (FDI).
- **Low Purchasing Power:** Moldova has one of the lowest average wage rates in the region. As price controls are lifted on utilities and basic commodities, Moldovans, especially those located outside Chisinau, are seeing their already limited purchasing power deteriorate. As a result, basic IT equipment, such as a PC, is too expensive for most Moldovans.
- **Low Rate of Employable Graduates:** In addition to suffering from a depleted HR pool, most IT companies consider the rate of employable fresh graduates from IT-related faculties and colleges to be too low, and the training period required for such graduates to be too long (longer than the European average). As a consequence, investors in the IT field keep their operations in Moldova small, despite the fiscal incentives offered, or they relocate to neighboring countries, which are often more expensive but have larger pools of employable graduates.

Overview and Structure of the IT Services Market — Current Market Size and Forecast (1)

Forecast and Analysis of IT Services Spending (US\$M) in Moldova, 2013–2018

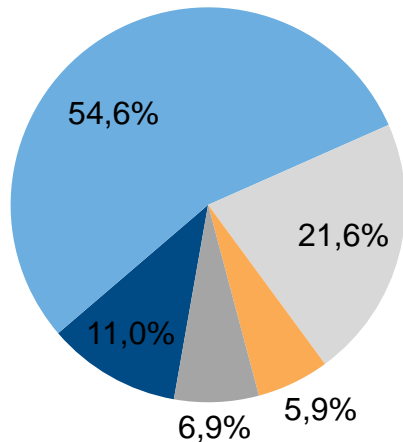
IT Services	2013	2014	2015	2016	2017	2018	CAGR
IT Consulting	2.47	2.71	3.12	3.45	3.65	3.33	6.2%
Implementation	12.32	12.56	12.95	13.32	13.87	14.15	2.8%
Support Services	4.86	6.03	6.54	6.75	7.03	7.54	9.2%
Operations Management	1.34	1.56	2.01	2.34	2.75	3.23	19.2%
Training and Education	1.56	1.82	2.12	2.45	2.66	3.10	14.7%
IT Services Total	22.55	24.68	26.74	28.31	29.96	31.35	6.8%

Source: IDC, 2014

- Local IT services spending in Moldova reached \$22.5 million in 2013.
- Basic IT services such as implementation and support services are still driving the market, together accounting for almost 75% of total spending. The heavy domination of Implementation services is the main reason why the further development of the Moldovan IT market in terms of value is not significantly higher; while the number of Implementation projects will continue to increase, their value will be heavily affected by the pressure on prices that pushes vendors to lower implementation tariffs or even include such services into the Hardware/Software prices.
- Due to the spending focus on hardware and network infrastructure, the majority of implementation and support services consist of systems integration and hardware support and installation activities.
- Finance, communications, manufacturing, and the public sector verticals were the largest spenders on IT services in Moldova in 2013.
- IDC expects that the IT services market will grow at a CAGR of 6.8% during the forecast period ending in 2018.

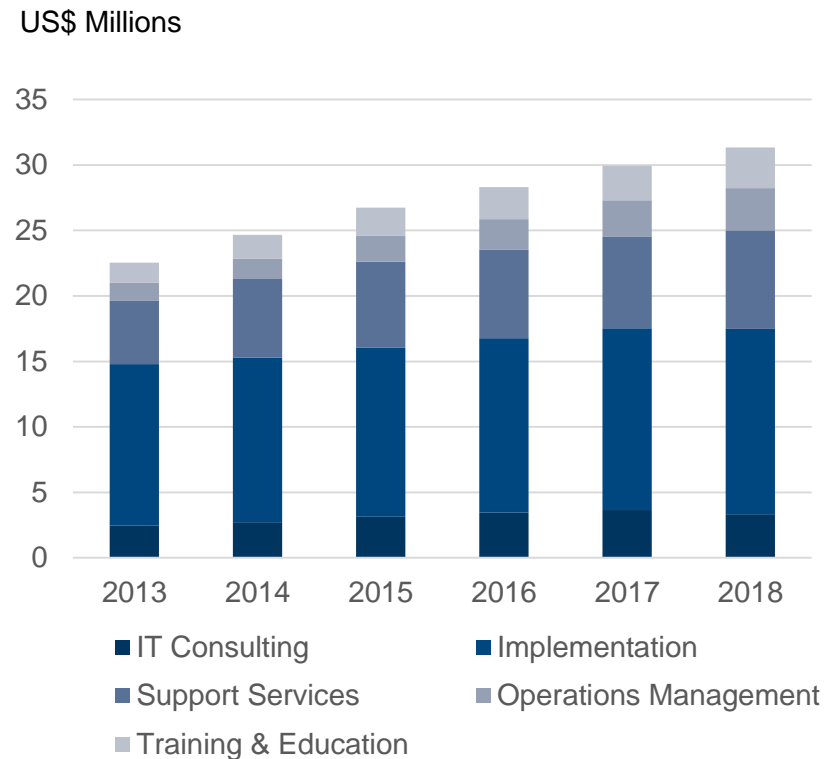
Overview and Structure of the IT Services Market — Current Market Size and Forecast (2)

IT Services Market Size 2013:
\$22.55 Million



- IT Consulting
- Support Services
- Training & Education
- Implementation
- Operations Management

IT Services Market Forecast:
6.8% CAGR through 2018



Overview of the IT Services Market and Future Outlook (1)

- Implementation services remained by far the largest part of the Moldovan IT services market, while support services ranked second, despite the need for a further reduction of operational costs in the private and public sectors — which might be expected to hinder these two service categories.
- The majority of projects that were carried out were small, with short implementation cycles, low risk, and rapid ROI. The implementation services market was driven by technology convergence, the adoption of various IT security features in the finance sector, and availability and disaster recovery initiatives in some verticals. The virtualization rate increased among larger businesses, but penetrated the SMB segment at a slower rate than expected. The small scale of SMBs means that investments in virtualization are often rather ineffective, and many companies in this segment prefer free versions of virtualization installations.
- Despite the low penetration rate, customers postponed hardware replacements and software upgrades and/or expired license renewals, which hindered the development of the implementation and support services segment. Moreover, corporate IT departments are pressed to provide basic implementation and support services internally. On the other hand, implementations of IT asset management and license management software solutions increased, as IT departments were forced to keep track of IT assets in order to ensure the transparency of spending while reducing expenditure.
- Due to the immaturity of the Moldovan market, many more infrastructure projects are to be expected, and demand for integration services will remain high throughout the forecast period. Consolidation and, later, virtualization are expected to accelerate in the large and very large business segment. The SMB segment lags behind, and SMBs still purchase low-volume standalone servers. Companies in both segments will continue to add storage capacity and implement various data management features such as tiering, thin provisioning, and de-duplication. The convergence of technologies, the need for better utilization of IT investments and interoperability between systems will contribute to the stable performance of integration services within the overall implementation and support markets.

Overview of the IT Services Market and Future Outlook (2)

- Demand for IT consulting services is expected to rise gradually across all verticals, but the most significant portion is expected to come from large projects commissioned by traditional consumers of consulting services, such as the government, telecommunications, and finance sectors. The transition to cloud is also expected to increase demand for IT consulting. The application consulting market has significant potential for growth due to low penetration of complex business management systems like EAS, CRM, and enterprise relationship management. The need for better integration of all corporate systems is another important issue that will continue to boost the segment.
- IT training and education services placed fourth, as both end-user organizations and IT companies benefited from programs, and invested in professional certifications and improved qualifications for their staff. The decline in demand for basic end-user training was partly compensated by increased demand for specialized professional training. Demand for these services will increase in the next phase, driven especially by increased compliance and technology requirements. Suppliers should continue to develop the IT skills of their key employees, as well as the managerial skills of their project and finance managers. As the complexity of products and projects increases, the need for managerial skills will gain importance.
- Operation management placed fifth in terms of overall IT spending, but is expected to have the most dynamic development, driven by the need for flexible scaling and the timely provisioning of services. The externalization of operation management is motivated by the very low ROI of spending on system redundancy. On rare occasions, some large international companies outsourced their IT functions in order to improve the quality of service. The bulk of businesses will still run their core systems internally and turn to external suppliers to secure disaster recovery or resources for peak workloads.
- Adoption of the cloud delivery model is still limited, but the number of IT managers/CIOs that are willing to consider mixed in-house and outsourced service delivery is growing. On the other hand, many SMBs are not prepared to pay fees for high-quality service, in spite of the benefits. It is likely that they will prefer to switch directly to cloud services, due to the possibility of lower prices.

Essential Guidance (1)

- **Find a Competitive Edge.** As regional and international vendors will enter the Moldovan IT market, local vendors must assess their ability to compete in terms of staff, financial resources, and marketing. Achieving critical mass by partnering or merging with other vendors will be crucial to winning larger projects and strengthening market positions. Local IT vendors should reevaluate their growth strategies, try to find niches that are not of interest to large vendors, and attempt to brand and differentiate themselves strongly. They should also leverage their flexibility, local market and language expertise, and competitive prices.
- **Exploit Opportunities in Outsourcing and Cloud Offerings.** The economic conditions are speeding up the transition to outsourcing and cloud offerings, as end-user companies have discovered that outsourcing services are cheaper and provide greater functionality than in-house services. Vendors need to educate clients better about the advantages of these services, such as improved customer relations and the ability to allocate more resources to core lines of business.
- **Be Proactive Toward the Government.** Since the public sector (government administration, defense, police, judiciary, healthcare, education, and state-owned public enterprises) accounts for the bulk of IT spending in Moldova, it is crucial for IT vendors to be proactive in their dealings with this vertical market. This means educating policymakers and civil servants in decision-making positions in particular, conducting marketing studies and benchmarking, and organizing conferences, as well as offering attractive financial arrangements, outsourcing, and more.
- **Address Micro Enterprises.** Given the fact that many SMBs in Moldova cannot typically afford an in-house IT specialist, vendors should tailor offerings and marketing mixes to meet the specific demand of these users for PCs, peripherals, software applications, networking, and mobility.

Essential Guidance (2)

- **Align with Universities Now to Ensure Skills for the Future.** It is no secret that finding talented human resources is becoming more difficult throughout CEE. One way that offshore/nearshore investors can combat this is by forming partnerships with local universities in the cities and countries in which they establish sourcing operations. This will have two advantages for them. First, it will enable future access to potential employees, and provide an avenue for efficient marketing as well as recruitment. Second, it may enable them to help shape the curricula being studied at the institutions, and this influence is becoming increasingly important given the speed at which technology changes. The rapidity of technological advancement is forcing companies to constantly seek staff with new skills for their operations. By addressing these changes at the educational level, companies will be able to ensure that their future flow of human capital is qualified and ready to contribute on the job from day one.
- **Increase Effectiveness of Public Procurement Procedures.** Moldova is saddled with extremely high levels of administrative burden and perceived corruption, concerns about alleged political interference in the business environment, infrastructure in drastic need of upgrade and modernization, and an economy that is more commodity- than service-based. In the procurement process, all these can create opportunities for abuse and corruption. For this reason, some high-quality suppliers and service providers do not submit tenders for government business, because they see it as a waste of time. IDC believes that Moldova could significantly benefit from top-level commitment to IT sector development and improvements in the transparency of its operating environments. IT and IT services have the potential to play a big role in the country's emergence as more knowledge-based, services-oriented economy — if proper attention is given to the open and transparent market principles that can help this become a reality.

Overview and Structure of the IT Services Market

Export of Services (Offshoring)

CEE Offshoring Realities (1)

- **CEE — A Key Cog in Western Europe Services Delivery:** With outsourcing now a mainstay delivery model in the global economy, CEE countries have a key role to play, given their proximity to Western European countries and their lower costs for comparable services. These advantages will continue to grow in importance, especially now that companies are trying to run their operations more efficiently. CEE-based companies proving their ability to deliver high-quality, highly complex services will continue to win business from clients looking for more affordable services that are still of very high quality.
- **Competition for Talent:** As technologies continue to advance, finding top talent to meet client needs becomes increasingly difficult. Native vendors feel that having skilled staff will increase their access to global markets, while larger international companies like to retain these resources not only for their offshore/nearshore operations (captive and third party) in CEE, but also to help them in the local markets.
- **Relative Political Stability in the Region Still Attractive:** This is important to companies looking to source parts of their operations to lower-cost regions, which gives CEE a competitive edge when bidding for sourcing work. That said, some hiccups in the region have given investors pause. These low costs will prove especially crucial as companies try to move on from the economic crisis, and look to run their businesses more efficiently.
- **CEE Vendors Are Maturing:** In 2013, CEE vendors again proved themselves as quality partners that can complete complex projects, as they exported approximately 63% of all deliveries to large (14.9%) and very large (48.0%) organizations. CEE providers also delivered 23.1% of all projects to medium-sized businesses. This is an indication of the maturation of the region's vendors, as large, global clients are becoming more comfortable handing over large, complex projects to CEE-based providers. In 2013, organizations in the small and very small business segments called upon CEE-based vendors for just over 14% of their offshore/nearshore workload.

CEE Offshoring Realities (2)

- **CEE Providers Serve All Verticals:** In 2013, organizations in the combined finance vertical spent the most on offshore/nearshore services delivery from CEE, accounting for nearly 22% of all such business from the region. The “others” category, which includes mostly ISVs that utilize the lower costs found in CEE to meet their development needs, accounted for 22.7% of the spending on services exported from the region. Organizations in the retail/wholesale and manufacturing sectors spent just over 9% each on services exported from CEE, while players in the telecom sector accounted for nearly 8% of spending on CEE services exports.
- **CEE Services Delivery Remains Solid:** In 2013, just over two-thirds of exported deliveries were in the form of IT services. R&D offerings accounted for about 26% of deliveries from the region, with much of this work coming from Russia, Ukraine, and Belarus.
- **Applications are CEE’s Calling Card:** The application development and testing market was responsible for 70.8% of IT services-related deliveries from CEE in 2013. Related application support accounted for another 10.0%. Consulting services, while accounting for a smaller share of the market, are increasingly embedded into larger projects, and are being utilized throughout the region to help guide companies in running their businesses more efficiently. One way they are doing this is by migrating to cloud delivery models, which accounted for more than 16% of exports from CEE in 2012 among regional offshore/nearshore providers.
- **Nearshoring Between CEE and Western Europe Mutually Beneficial:** In 2013, over 60% of deliveries from CEE went to nearshore locations, either in Western Europe or nearby CEE countries. With strong linguistic capabilities, shared histories, and geographic proximity, CEE-based vendors and Western European-based clients are able to enjoy nearshore business arrangements that are mutually beneficial. Vendors based in CEE still export a significant amount of work to the Americas (30.9% in 2013), with much smaller, though increasing, amounts being delivered to the Middle East and Africa (MEA) and Asia Pacific.

CEE Offshoring Realities (3)

- **Rising Costs Throughout CEE:** This is causing some potential investors to look further east for certain services at lower cost. Despite this, vendors from CEE continue to compete for business based on their quality deliverables and the attraction that nearshore locations hold for buyers in Western Europe, as well as some locations within CEE itself.
- In addition, some previously offshore/nearshore-centric **vendors in CEE are turning to their local markets** in order to win new business and generate alternative revenue streams. Vendors native to CEE are looking more actively to expand their reach into new CEE markets and even into MEA, so they can 1) tap into local markets in these locations, and 2) utilize resources in these countries to serve in an offshore/nearshore capacity for business won in onshore locations.

Moldova's Export of Services — Current Size, Structure, and Forecast (1)

- Moldova remains an important hub for offshore services in the region, despite the increasing competition from neighboring countries such as Ukraine, Romania, Serbia, Albania, Bulgaria, or even Turkey.
- The export of IT services plays a very important role in the overall economic landscape of Moldova. Its share of the country's total exports (2.3%) is one of the largest in the region.
- In 2013, the official value of the export of IT services reached \$56.72 million in 2013, representing a healthy growth rate of about 35% compared to year 2010.
- However, we estimate that the real volume of export of services is much higher, due to the large number of freelancers whose contribution to the export of services is estimated at about \$12 million in 2013.
- ICT exports remain important to the country, as does the development of its internal market and spending, given the potentially high returns that the ICT industry can provide in transforming the country's economy and improving standards of living.
- Despite the continuous development of the ICT industry in Moldova, the impact on the pillars defined by the Network Readiness Index (infrastructure, political, economic development, social) is far from reaching its potential, as the country ranked only 77th with a score of 3.84.

Moldova's Export of Services — Current Size, Structure, and Forecast (2)

- The total value of offshoring/nearshoring services reached approximately \$56 million in 2013, and is expected to grow at a CAGR 14.5% to approximately double in size by 2018.
- IT services accounted for the largest share of total services exports, at about 72%. Within this category, application development and testing has the largest share, accounting for almost 70% of this service category. The Application Development and Testing category is traditionally the most important as far as IT Services exports are concerned in the majority of CEE countries, mainly because prices for Software developers and testers are the most competitive compared to native countries; moreover, such services are not considered very critical and they are not ongoing activities for companies so outsourcing helps them deal with peaks and lows in demand.
- The other two major service categories, R&D/engineering services and BPO, are less popular in Moldova, together accounting for less than 25% of total IT services exports. However, BPO is expected to develop quicker than the rest of the activities (especially in the customer care/call center) because it is the easier to outsource and demand is rapidly increasing, both from companies who have done this internally and from companies who are just setting up such activities, not to mention the fact that it usually does not request high qualification.

Forecast and Analysis of Total Services Exports (US\$M) in Moldova, 2013–2018

Services	2013	2014	2015	2016	2017	2018	CAGR
IT Services	40.61	45.87	52.39	60.56	71.23	78.35	14.0%
Business Process Outsourcing (BPO)	5.30	7.12	9.45	11.02	12.12	14.34	22.0%
R&D/Engineering Services	8.57	9.22	10.35	11.02	11.76	11.56	6.2%
Others (Management, Quality assurance)	2.24	3.33	4.45	5.68	6.50	7.33	26.8%
Services Total	56.72	65.54	76.64	88.28	101.61	111.58	14.5%

Source: IDC, 2014

Analysing the Future

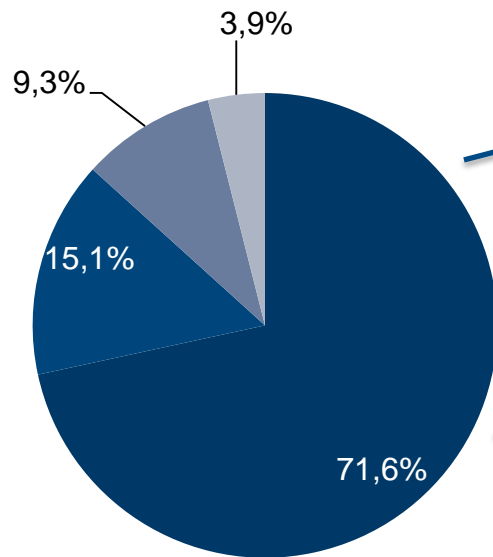


Moldova's Export of Services — Current Size, Structure, and Forecast (3)

- In terms of export revenue structure, the overwhelming majority of IT Services revenue comes from customizations services (Custom Application Development and Application Customization) and testing services. In terms of revenue contribution the customization services account for nearly 70%, while testing services represent approximately 30%. Due to the limited pool of human resources, compared to other neighboring countries, Moldova should focus on setting operations with high value added activities, as opposed to large scaled operations which require huge pools of human resources, such as support or BPO services.
- In terms of Application Development, the majority of revenue is split between lower value added services such as web development and basic code writing and high and very high added value services such as business applications and mobile applications.
- The dominating technologies evolve around .NET Framework, Enterprise JAVA, C, C++, C#(with increasing focus on C#), PHP, Sitecore CMS, iOS, Oracle DB, CISCO and CCIE (Cisco Certified Internetwork Expert). The majority of the software developers are either self taught or are heavily trained by employers around these technology areas. However, if IT curriculum should be heavily introduced in high schools and universities, this should be built or at least include specialized courses in the above technologies.
- In terms of vertical focus, the Software development in demand services are for Finance, Telecom, Manufacturing and Retail, with Finance dominating the application space. Besides these traditional verticals, IDC sees also a big opportunity in mobile, social media and entertainment applications development.
- The main export countries remain UK, US, Germany, Benelux, Sweden, Ireland. However, as mentioned in one of the previous sections, there are new emerging and untapped opportunities in closer markets from CEE, such as Poland, Hungary, Czech Republic and Romania that companies involved in offshore or nearshore activities should start to focus on. This is valid mostly because there is still a big gap between the development costs in these countries versus Moldova.

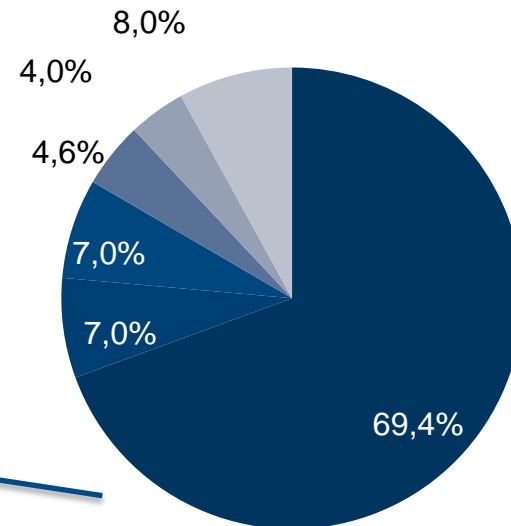
Moldova's Export of Services — Current Size, Structure, and Forecast (3)

Total Services Export 2013:
\$56.72 Million



- IT Services
- R&D and Product Engineering
- BPO
- Other

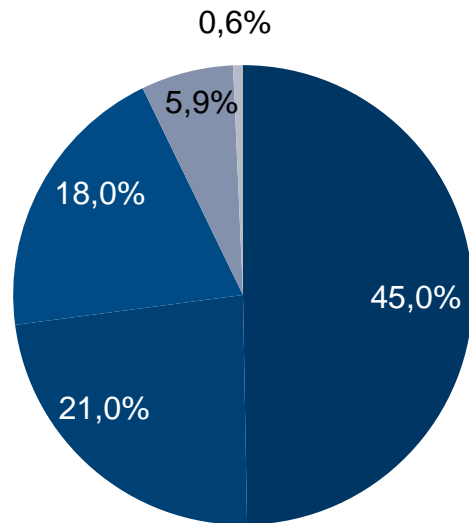
IT Services Exports 2013:
\$40.61 Million



- Application Development and Testing
- Application Customisation
- Application Support
- Consulting
- Infrastructure Outsourcing and Management
- Other

Moldova's Export of Services — Current Size, Structure, and Forecast (4)

Total Services Exports by Geography 2013: \$56.72 Million



- Western Europe
- Americas
- Central and Eastern Europe
- Middle East and Africa
- Other

Essential Guidance (1)

Global economic dynamics are having a direct impact on CEE offshore/nearshore vendors and their ability to grow and compete for business. Whether they are located far from events at the macro level (the recession in the U.S. in 2008–2009), or are in adjoining countries (the eurozone troubles in 2011–2012), CEE companies, including those in Moldova, must successfully navigate these challenges in order to guarantee their viability as services providers. The following guidance can help them do so.

- **Consider Local or Closer Markets for New Revenue Streams.** One way for native Moldovan offshore/nearshore vendors to mitigate risk and generate alternative revenue streams is to take advantage of opportunities on their local market or those closer to home. As explained earlier, native offshore/nearshore vendors would have a significant competitive advantage to international players, as they are able to offer better prices and are not bound by strict internal corporate regulations that significantly raise their expenses; however, most of them do not seem to take a keen interest in the local market rather due to uncertainty of the economic/political situation rather than lack of development opportunities. It is well known that businesses in certain parts of the world (the U.S., Western Europe, Asia) have been more open to outsourcing parts of their IT operations, as they understood long ago the potential benefits. Some local CEE outsourcing markets are maturing, which is presenting new opportunities to CEE-based offshore/nearshore vendors for revenue generation, as well as a chance to burnish their reputations locally, not only as sound employers, but also as strong competitors for local business. While the strengths of native vendors clearly lie in the offshore/nearshore space, the transition to doing business in their local market would be much easier than for foreign companies attempting to create a presence in CEE. The advantages of pursuing business on their home turf would come in the form of shortened sales cycles, process familiarity, full understanding of business cultures and local operating environments, and better communication between vendor and client. While waiting for new offshore/nearshore business to come in, vendors can procure newly available business at home, and do so more efficiently than foreign companies. While competition for outsourcing in very developed markets such as U.S., Western Europe or Asia is very strong and it is known that they already have significant offshoring connections in larger CEE countries which they do not seem interested in changing at the moment, the opportunity may arise for more developed CCE countries such as Russia, Romania, Czech Republic, Poland where the market is maturing and local non-IT companies may look to outsource, at first, non-critical processes, towards companies that can offer them significantly better prices than local companies can offer. However, local IT vendors looking for such nearshore opportunities have to be very careful in selecting the services they provide, as they have to focus on services they can provide with minimal additional spending (technical activities that do not require significant extra training, languages widely spoken locally, etc.)

Essential Guidance (2)

- **Intensify Focus on Quality.** The main reasons that companies source their IT operations are to lower their OPEX and to attain prime value for their money. Companies that cannot afford to experiment or fail with their products and services need quality and perfection, the first time, from their services providers. During turbulent economic times, this becomes a more serious concern, and buyers will not accept sloppy deliveries or work that puts their brand in jeopardy, especially ISVs that have an immediate client-facing dynamic to their operation. Buyers in CEE are expressing less patience in regard to their service deliverables, with some vendors reporting the need to pick up the pieces for buyers after their original services provider could not deliver either on time or at the quality level previously promised in a service-level agreement. In difficult times and challenging markets, vendors native to CEE must not rest on their laurels and assume their offshore/nearshore business will always return. To ensure that it does, getting things right the first time should be a top priority.
- **Utilize Rapidly Changing Technology to Win Offshore/Nearshore Business.** The changing nature of technology can be overwhelming for companies that do not have IT as their core business. While it is true, to an extent, that the “do more with less” mentality that currently prevails could drive offshore/nearshore business to CEE-based providers, including Moldova, it is really business needs that are creating demand for these services. IT is constantly moving into new areas (new verticals, new geographies, new niche service areas, etc.). The number of IT professionals, however, is not growing in accordance with these rapidly changing technologies, and this is having a direct and negative impact on the business environment for many companies. The reality is that people and companies need to make IT more affordable. One thing that makes this even more challenging is that it is increasingly difficult to get cash, so IT becomes more OPEX-oriented, which should theoretically drive companies to source at least some of their IT operations. This is where vendors can accelerate the push to source, which will have benefits for everyone involved. While this will require a new sales and marketing approach, now is the time for vendors to convince customers that they can handle the job and that their expertise will allow end-user organizations to focus on their core competencies.

Competitive Assessment

Benchmark Analysis — Moldova vs. CEE

- In the following section, we analyze operating environments in 13 CEE countries. IDC has created an all-encompassing framework to accurately assess each country's suitability and attractiveness as potential offshore/nearshore technological and BPO locations.
- The benchmark analysis include the following five factors:
 - Resources Skills
 - Economic and Political Aspects
 - Infrastructure
 - Business and Regional Aspects
 - Financial Aspects
- The study profiles each country based on quantitative data relating to the above five categories for the years 2013 (where data is available and relevant) and offers qualitative analysis of the data.

Benchmark Analysis — Moldova vs. CEE

Resource Skills Factors (1)

- A large labor pool does not necessarily mean a large supply of qualified labor. One of the biggest challenges facing companies in knowledge-based economies is that of securing an adequate number of employees with the skills necessary for information-intensive positions. These include knowledge, technical skills, soft skills, people skills, and management skills. The size and skills of the local resource pool are crucial criteria for companies looking to establish offshore operations. While the importance of skills was previously highlighted, the importance of a resource pool's size cannot be understated. If we look at the percentages of the population engaged in information and communication activities (classified by ISCO categories), we also notice that Moldova (together with Slovenia) ranks first of all countries, with 2.8%. The conclusion should be that given its small labor pool that cannot be compared with the one in Ukraine, Romania or even smaller Bulgaria, Moldova need to concentrate its efforts on producing ready to employ professionals, in cooperation with the faculties and the companies in order to shorten the 6 months average training period (as claimed by the companies during the interviews).
- Of all the countries listed in the table, Moldova had the highest percentage of computer, mathematics, and statistics graduates within the overall number of fresh tertiary-education graduates in 2013, at almost 6%. Despite the fact that, in terms of absolute numbers, the figure is lower than those of the other countries, the percentage shows increasing interest among the graduating population for a career in an IT-related field.
- A prerequisite for successful offshore/nearshore sourcing operations is the availability of a multilingual labor force in the given location. By and large, the tuition of English in regular school curricula is growing in Moldova, and the level of English proficiency among the population is improving considerably. Moreover, the French-speaking population in the country is impressive, being one of the highest in CEE in terms of actual numbers of pupils and students studying French (second after Romania). While the vast majority of the companies that outsource their operations in Moldova come from the US and WE, in many cases, the projects come from their subsidiaries in Moscow, Bucharest or Kiev and Moldova has an unique advantage with a very high proficiency in both Russian and Romanian and entire teams can be easily moved to work on project basis either in Romania or in Russian speaking countries.
- Work culture is a difficult concept to define, and is subjective by nature, especially in continental Europe, where countries and associated cultures are numerous and diverse. However, Moldova stands out as the country with one of the lowest average number of weekly working hours, mainly due to the large number of people involved in agricultural activities. As a comparison, in most CEE countries, the number of weekly working hours is 40, while in Moldova it is 32. Therefore, Moldova should consider adjusting its number of working hours to be in line with the CEE average, as it is expected that potential foreign outsourcing investors will consider the CEE average as a standard.

Benchmark Analysis — Moldova vs. CEE- Year 2013

Resource Skills Factors (2)

Measurement	Moldova	Czech Rep.	Ukraine	Hungary	Romania	Bulgaria	Croatia	Slovenia
Education Levels								
Completed Tertiary Education (ISCED 5, 6)	24,000	107,773	642,387	69,917	200,106	64,091	39,820	20,596
Social Sciences, Business and Law Graduates	12,000	37,549	273,014	28,632	89,096	32,495	16,711	8,270
Life Sciences Graduates	408	2,273	12,392	839	2,851	274	557	446
Mathematics and Statistics Graduates	576	751	6,120	325	2,969	178	512	188
Computing Graduates	840	4,569	6,138	1,953	1,597	1,752	1,515	768
Engineering, Manufacturing and Construction Graduates	3,048	13,196	130,405	7,461	39,039	9,756	6,145	3,425
Language Learning (2011/2012)								
English Language Education	242,200	730,340	4,389,329	610,245	1,689,547	431,083	338,162	141,493
German Language Education	17,100	300,682	639,729	343,657	151,196	101,604	143,880	60,852
French Language Education	272,410	40,101	312,646	24,423	1,486,759	37,540	9,250	5,053
Resource Availability								
Total Labor Force - 000's	1,260	5,213.4	21,980.6	4,354.7	9,613.2	3,322.7	1,635.6	989.9
Total Employed Labor Force - 000's	1,205	4,845.9	20,404.1	3,906.3	8,883.6	2,889.5	1,348.3	888.1
NACE C - Manufacturing	156	1,273.5	3,274.8	820.2	1,685.3	571.5	231.1	202.3
NACE J - Information & Communication	35	138.6	312.2	111.4	150.7	74.8	30.2	28.5
NACE M - Professional, Scientific & Technical	200	209.8	527.4	147.9	179.4	83.1	52.2	41.6
NACE N - Administrative & Support Services	50	124.7	367.6	140.3	182.2	113.9	29.3	20.9
NACE S - Other Services	35	90.3	456.6	82.8	126.1	46.2	26.4	14.3
Work Culture								
Average Hours Worked (Week)	32	40.6	37.9	39.5	40.2	40.7	39.5	39.6
Vacation Days (Annual Leave)	28	20	18	21.3	20	20	20	21
Statutory Holidays	12	11	9	11	11	14	11	10

Benchmark Analysis — Moldova vs. CEE- Year 2013

Economic and Political Aspects (1)

- Generally speaking, business is only moderately tolerant of economic and political uncertainty. Companies looking to expand their operations must constantly weigh potential instabilities in economic markets, and consider these against the potential advantages of entering these markets. Foreign investors and international organizations will naturally be more attracted to locations in which the political climate fosters stability, security, and economic growth.
- Countries committed to policies that provide stability and responsible economic management remain attractive to companies seeking to establish offshore operations, as they reflect a long-term strategy focused on development and growth. While some factors relating to political stability should be assessed for their risk, other political initiatives indicating government support for the offshore industry have potential benefits.
- The Corruption Perception Index (CPI) ranks countries in terms of perceived corruption. A "clean" score is 100, with a lower score indicating a greater level of perceived corruption. Unfortunately, Moldova ranks very low in this index (35).
- The software piracy rate in Moldova was the highest in the region in 2013, at 88%.
- On the positive side, the regulatory environment in Moldova is quite flexible, with decent rankings compared with the other countries in terms of number of procedures, duration (days), and costs for setting up a business in the country.

Benchmark Analysis — Moldova vs. CEE- Year 2013

Economic and Political Aspects (2)

Measurement	Moldova	Czech Rep.	Ukraine	Hungary	Romania	Bulgaria	Croatia	Slovenia
Regulatory Environment								
Number of Procedures to Start Business	6	9	6	4	5	4	6	2
Duration (days)	9	19.5	21	5	8.5	18	8	6
Costs (as a % from the gross national income per capita)	2.4%	8.2%	1.3%	8.6%	2.4%	1.0%	9.3%	0.0%
Political Factors								
Corruption Perception Index	35	48	26	54	43	41	48	57
Intellectual Property Protection								
IPP and ICT Laws and Regulations	No	No	Yes	No	Yes	Yes	No	No
Software Piracy Rates	88%	34%	73%	39%	62%	63%	52%	45%
Economy								
GDP (US\$M)	7932	198,312	176,235	132,426	189,659	53,046	58,058	46,851
PPP (US\$M)	13250	286,000	336,800	198,200	285,100	105,000	77,900	57,400
FDI (US\$M)	165	7,049	6,650	2,926	2,660	2,261	1,197	532
Consumer Price Index	4.6%	1.4%	0.5%	1.7%	3.2%	0.4%	2.3%	1.9%
Unemployment Rate	5.1%	7.0%	7.7%	10.8%	7.3%	13.0%	17.2%	10.1%

Benchmark Analysis — Moldova vs. CEE- Year 2013

Infrastructure (1)

- Reliable infrastructure, in terms of both ICT and transportation, is essential to the success of an offshore/nearshore operation. Communication and network infrastructures must be able to handle real-time interaction between the onshore and offshore locations. Transportation infrastructure within an offshore/nearshore location must enable easy access to company centers and other facilities, while efficient transport between hubs (airports, train stations, and expressways) and company sites will enhance conditions for business development.
- ICT and telecommunications penetration rates provide a good indication of a country's readiness to export technology-related services to clients abroad. Aspects of infrastructure that carry the most importance within the IT industry include telecommunications, installed hardware base, Internet/broadband access, and availability of mobile services. Moldova is well positioned in terms of communication infrastructure, with mobile services penetration over 100% and one of the highest fixed-line penetration rates in the CEE region, but the Internet penetration rate is still low compared with the CEE average.
- ICT spending per capita in Moldova is the lowest in the region, standing at \$201, but this might be somewhat misleading given the country's size. At the same time, the level of ICT spending in GDP is the highest in the CEE region, at 7.5%. In terms of contribution to the GDP, IT sector counts for a small percentage (below 1%), the rest being represented by communication services.
- Looking at the transportation infrastructure, Moldova substantially lags behind the other CEE countries, with no four-lane highways, and poor railway network infrastructure. On the other hand, air transportation, for both passengers and freight in and out the EU is continuously increasing, following to the agreement signed in 2012 by both parties, Moldova and the EC in order to gradually integrate the Republic of Moldova into the European common aviation market. Today, there are direct flight connections between the Republic of Moldova and 12 EU Member and in total, the number of passengers transported in and out of the country in 2014 was close to 1.2 million.

Benchmark Analysis — Moldova vs. CEE- Year 2013

Infrastructure (2)

Measurement	Moldova	Czech Rep.	Ukraine	Hungary	Romania	Bulgaria	Croatia	Slovenia
ICT Infrastructure								
Hardware Penetration Rate	13.5%	53.2%	24.7%	25.9%	17.0%	23.4%	24.5%	39.0%
Fixed-Line Penetration	33.2%	11.6%	26.5%	18.1%	18.3%	30.6%	36.7%	13.8%
Mobile Penetration	119.7%	136.3%	135.8%	114.0%	144.9%	175.5%	111.1%	111.4%
Internet Penetration	13.1%	26.0%	18.1%	26.4%	20.5%	18.7%	22.6%	29.9%
Broadband Availability	7.5%	25.3%	5.8%	26.3%	20.3%	18.2%	21.2%	27.9%
Level of Local ICT Spending per Capita (US\$)	201.20	927.78	213.76	597.69	301.21	372.65	648.40	895.93
Level of ICT Spending per GDP	7.5%	4.9%	5.5%	4.5%	3.2%	5.1%	4.8%	3.9%
Transportation								
Airport Number International Passengers	1,218,850	10,974,196	7,930,000	8,520,880	7,643,467	3,504,326	2,300,231	1,321,100
Number of International Aircraft Movements	18,500	128,633	99,304a	83,330	106,159	40,526	36,874	33,111
Train Network (km)	1,235	9,469	21,619	8,057	10,777	4,152	2,722	1,228
Highway (km)	0	730	1,875	1,477	337	458	1,254	769

Benchmark Analysis — Moldova vs. CEE- Year 2013

Business and Regional Aspects (1)

- A key concern for international organizations when deciding on an offshore/nearshore sourcing location is how well existing onsite operations may be integrated into the prospective business environment. Several regional factors are key when assessing the attractiveness of a particular location.
- Regardless of whether they are leasing or purchasing, companies should ensure that the real estate market in a potential location can provide the required facility/property. Security of property rights and corruption are burdens related to the time and procedures necessary to purchase a property. Moldova is attractive from this perspective, as the leasing or purchasing prices are amongst the most competitive in the CEE region. At the same time, the number of procedures, duration, and associated costs for registering a property are all low and therefore attractive for potential investors.
- Countries with more experience in offshore operations have proven their ability to provide companies with a knowledgeable work force. This is why the previous existence of BPO and ITS centers is important for potential contractors, as it shows existing market knowledge around these services. Moldova has approximately 15 such centers, which is a good number presented as a ratio to the total population.
- In terms of time zone compatibility, Moldova is only UTC+2, which gives it a significant advantage over other countries for customers located in Western Europe. Moreover, due to its geographic position and its cultural background, Moldova has affinities with both Western European countries and Russia.

Benchmark Analysis — Moldova vs. CEE- Year 2013

Business and Regional Aspects (2)

Measurement	Moldova	Czech Rep.	Ukraine	Hungary	Romania	Bulgaria	Croatia	Slovenia
Perceived Country Attractiveness								
Time Zone Compatibility	UTC +2	UTC +1	UTC +2	UTC +1	UTC +2	UTC +2	UTC +1	UTC +1
Market Experience								
Existing Offshore BPO Centers - F&A and HR	1	8	0	27	6	2	0	0
Existing Offshore BPO Centers - R&D and Engineering	8	29	33	13	16	6	0	2
Existing Offshore BPO Centers - Customer Care	1	27	1	23	21	8	3	5
Existing Offshore ITS Centers (hosting, CAD, support)	3	19	0	19	9	10	2	0
Real Estate								
Facility Availability to Lease (sq. m)- total available area for rent	35250	389,300	412,500	584,700	323,140	348,400	209,950	240,000
Number of Procedures to Register Property	5	3	8	4	8	7	5	5
Time Required to Register Property (days)	17	24	45	17	20	14	103	110
Associated Costs (as a % from the gross national income per capita)	1.8%	3.0%	1.9%	5.0%	1.6%	2.9%	2.5%	2.0%

Benchmark Analysis — Moldova vs. CEE- Year 2013

Financial Aspects (1)

- In the increasingly commoditized IT industry, financial factors often determine the selection of an offshore location. Smart sourcing, leading to increased outputs and/or increased cost efficiency, is a key to revenue and profit growth. Companies that can transfer operations to lower-cost locations can gain an instant competitive advantage, provided the quality of their goods or services is not affected by the move.
- Salaries and other employee-related expenses comprise a substantial proportion of company expenses, especially for knowledge- or information-based firms that are dependent on human resources. An organization can achieve significant cost savings through a reduction of these payroll expenses. In this regard, Moldova remains one of the most attractive locations for offshore services in the CEE region, along with Ukraine.
- Countries impose taxes as means of generating revenue from industry. The revenue generated from taxation, however, should not hinder the development of the business climate; tax schemes should, in fact, promote development of an open, transparent, and favorable operating environment. In this regard, Moldova is very competitive, having one of the lowest taxation levels in the region, based on 12% corporate tax and 27% employees-related costs (health, social security and unemployment).

Benchmark Analysis — Moldova vs. CEE- Year 2013

Financial Aspects (2)

Measurement	Moldova	Czech Rep.	Ukraine	Hungary	Romania	Bulgaria	Croatia	Slovenia
Compensation								
Average Gross Monthly Earnings, USD	438.00	1,285.98	405.58	1,032.05	716.27	549.32	1,392.81	2,025.78
NACE C - Manufacturing	425.00	1,272.11	468.45	1,079.06	736.45	454.20	1,218.07	1,910.42
NACE J - Information & Communication	530.00	2,362.90	571.30	1,908.10	1353.92	1,253.29	2,109.82	2,755.05
NACE M - Professional, Scientific & Technical	433.00	1,644.42	554.66	1,433.66	1098.19	843.71	1,921.40	2,256.17
NACE N - Administrative & Support Services	408.00	863.25	313.91	757.15	509.64	364.57	834.39	1,318.99
NACE S - Other Services	423.00	1,007.63	336.27	782.00	482.83	394.67	1,448.42	1,851.38
Tax and Country-Specific Costs								
Corporate Tax Rate	12.0%	19.0%	18.0%	10%/19%	16.0%	10.0%	20.0%	17.0%
VAT	20.0%	21.0%	17.0%	27.0%	24.0%	20.0%	25.0%	22.0%
Employee-Related Costs (health, social security, etc.)	27.0%	34.0%	49.7%	28.5%	28.5%	18.5%	15.2%	16.1%
Government Incentives	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Key Competitive Factors of the Moldovan Offshore/ Near-Shore Market (1)

- **Competitive Internet Bandwidth:** Moldova has one of the highest Internet connection speeds in the world (ranked among the top 18), especially in the capital Chisinau, where most offshore/near-shore companies are located. This represents a huge advantage for developers/testers accessing remote applications, databases, and so forth, as well as an important precondition for future cloud investments.
- **Unique Economic and Cultural Advantages:** Due to its geographical position and its cultural background, Moldova has cultural affinities with both Western Europe and Russia. Moldova is also the only CIS country that has preferential economic agreements with the EU, while benefiting from the advantages of preferential trade agreements within the CIS.
- **New European Opportunities:** Moldova has started a deep transformational process based on its recent negotiating agreement with the European Union, which sets the basis for adopting the *acquis communautaire* with important consequences for adopting and implementing international standards that will further increase the country's attractiveness for new international business opportunities.
- **Deep and Comprehensive Free Trade Area (DCFTA):** On 27 June 2014, the two partners, Moldova and the European Commission signed an Association Agreement and have applied provisionally since the 1st of September 2014. The Agreement will open up new commercial opportunities with the countries from Western Europe, including IT-related initiatives.

Key Competitive Factors of the Moldovan Offshore/ Near-Shore Market (2)

- **Low Taxation Levels:** In terms of taxation, Moldova is very competitive, having one of the lowest taxation levels in the region, based on 12% corporate tax and 27% employees related costs (health, social security and unemployment). Moreover, during 2012–2016, Moldovan companies whose main activity is software development (IT companies) and their employees may benefit from several tax incentives (subject to specific conditions being met). Employees of IT companies may also be eligible for personal income tax incentives for their salaries; standard taxation being limited to certain monthly amounts (i.e., two national average forecasted salaries).
- **Double Tax Treaties:** Moldova has signed double taxation agreements with 48 countries, of which 45 are in force. The Double Tax Treaties will create more favorable tax regimes than those provided by the local legislation, which will encourage new foreign companies to set up local operations, including ITS and BPO offshore centers.
- **Free Economic Zones:** In these zones, residents are provided with special tax and customs incentives and state guarantees, which are very attractive for industry investment projects, including IT-related start-ups.
- **Compatibility with Western European Office Hours:** Moldova is UTC+2, which gives it a significant advantage over Asian countries — especially for live support services — while costs are similar and European language skills are better.
- **Workforce:** Of all the countries listed in the table, Moldova had the highest percentage of computer, mathematics, and statistics graduates within the overall number of fresh tertiary-education graduates in 2013, at almost 6%. Despite the fact that, in terms of absolute numbers, the figure is lower than those of the other countries, the percentage shows the increasing interest of graduates in developing a career in an IT-related field.

Key Competitive Factors of the Moldovan Offshore/ Near-Shore Market (3)

- **Foreign Languages:** By and large, the tuition of English in regular school curricula is growing in Moldova, and the level of actual English proficiency among the population is improving considerably. Moreover, the French-speaking population in the country is impressive, being one of the highest in CEE in terms of actual number of pupils and students studying French (second after Romania).
- **IT Parks:** If finalized, the IT parks initiatives will provide superior infrastructure for companies at costs significantly lower than those in Western Europe, the U.S., or the Asia-Pacific region. At the same time, the IT parks will provide business and support services such as legal, tax, financial, and post-graduate IT education in its specialized centers. An important step in this direction was made by the local provider of electronic communication services, StarNet which intends to set-up a “Development IT Park” that will offer the latest technologies in terms of broadband availability, data storage services, as well as dedicated application testing laboratories.
- **Lower Business Costs:** Moldova is attractive from this perspective, as the leasing or purchasing prices are among the most competitive in the CEE region, and the number of procedures to register a property, their duration, and associated costs are attractive for potential investors. Also, the regulatory environment is quite flexible compared with the other countries in terms of number of procedures, time, and costs for setting up a business in the country. Moreover, employee-related costs are still among the lowest in the region, making Moldova attractive for offshore services.
- **Technical skills:** The creation of an IT Excellence Centre close to the to the Technical University, that will provide education, training, skills, and start-up acceleration. The center will open in end 2015 and it is expected to have a huge impact on the quality of graduates. USAID will invest USD 2 million and other large technology vendors such as Microsoft and IBM will also participate in the project.
- **Increasing penetration of IT in Education:** Moldova’s efforts to educate its school population in IT has resulted in increased penetration of Computer Science in schools and high schools. Computer science is now compulsory from the 7th to 12th grade for most Technology/Mathematics & Sciences students. Another initiative in this direction was the Government's deal with Cisco for an optional Cisco IT Essentials course in some of Moldova’s best high schools; the program began in 2012, with financing from the CEED II program, and it has been quite a success as the number of teachers certified to hold this course has constantly increased.

Key Constraints of the Moldovan Offshore/Near-Shore Market (1)

Constraint	Recommendation
<p>Poor Communication Infrastructure: Moldova may have managed to solve the issue of Internet speed, especially in large cities, but the country still needs to address poor transport and telecommunications infrastructure outside of Chisinau, unreliable Internet connections, and high voice tariffs for calls to North America and EU countries. Other infrastructure shortcomings include the lack of secure Internet servers, reliable electricity supply, poor connection to the grid, and availability of digital content.</p>	<p>These issues might be partially solved by finalizing the IT Parks project, where the deployment of state-of-the-art infrastructure can be implemented much more easily due to the small-scale environment. Several other issues might be resolved in such parks, such as secure servers, dedicated training, and a concentrated pool of other IT-related resources.</p>
<p>Underdeveloped Management Practices: Significant differences exist between locally owned companies and branches of foreign firms in terms of company management. The majority of local branches of international firms do not engage in common practices such as business development, marketing, and strategic management, instead leaving these activities to head offices abroad.</p>	<p>So-called soft skills, together with foreign language skills, are as important as technical skills in the IT industry, given the international contractual activities and worldwide communication. In order to compensate for this gap, IT curricula in universities should also include business management practices, marketing, and communication courses.</p>
<p>Insufficient Training: Due to reduced budgets, organizations' investments in training programs is still insufficient. Given the poor quality of graduates and a lengthy induction period upon hire, such training is crucial.</p>	<p>The Ministry of Education should establish partnerships with private companies so that students will have the opportunity of apprenticeships, even early in their studies.</p>

Key Constraints of the Moldovan Offshore/Near-Shore Market (2)

Constraint	Recommendation
<p>Small Number of IT Certifications: Besides the official degrees granted by public universities, several other certifications should be offered, especially in the private sector.</p>	<p>The Moldovan government should also take into account and recognize IT certifications issued in the private sector and encourage more public/private partnerships, such as the Moldova Cisco Networking Academy.</p>
<p>Lack of IT Incubators: IT incubators are important vehicles for the creation of new start-ups, as they drive innovation and increase the appetite of the young generation for a career in IT.</p>	<p>The government of Moldova should offer financial aid and grant programs for R&D and IT start-ups. Another option might be to attract venture capital funds by offering investors special fiscal incentives in the country.</p>
<p>Software Piracy: A high rate of software piracy and ongoing copyright infringements lead to substantial losses in the state budget. More importantly, these hinder and discourage new software development initiatives.</p>	<p>The government of Moldova should tighten the legislation against intellectual property violations and increase the associated penalties for both enterprises and individuals.</p>
<p>Insufficient Promotional Activities: A favorable business climate and availability of resources is not sufficient for increasing the offshore operations in the country.</p>	<p>The Moldovan government should encourage Moldovan companies' attendance at international fairs and should develop programs to attract international IT companies to the country.</p>

Key Constraints of the Moldovan Offshore/Near-Shore Market (3)

Constraint	Recommendation
<p>Insufficient Diffusion of IT Culture in the Country: Lack of extensive use of information technology in all economic sectors and absence of profound expertise on the users' side.</p>	<p>Beyond civil infrastructure projects such as roads and mass transit systems, the government should also be tapping into public/private partnerships as an alternative means of expanding services, modernizing education and healthcare systems, and increasing the availability and diffusion of ICT throughout the state.</p>
<p>Brain Drain: The large exodus of IT specialists in other countries has a huge impact on local resource availability, which is already scarce.</p>	<p>The government of Moldova should create a competitive working environment within the country so that IT specialists do not seek work abroad, and instead contribute to the growth of the local economy. Several such initiatives have already taken place, such as the special tax rate for software developers.</p>
<p>Few Campaigns for IT Education: It is very important that regular campaigns are rolled out in order to emphasize the advantages of pursuing a career in the IT field.</p>	<p>In most countries, the salaries paid for IT specialists are above the national averages and the unemployment rate in this sector is among the lowest. These are positive messages that should be conveyed to the young population in order to increase the attractiveness of this sector.</p>
<p>Implementation of eSkills Development Strategies: Knowledge economies require an increasing range of skills and eskills. Research shows that eskills are increasingly the entry ticket to better jobs and to employment in general.</p>	<p>In nearly all contexts, eskills should be treated by the government as a component of a broader strategy for building a knowledge economy by fostering competitiveness, growth, employment, and education. In order to reach this objective, Moldovan officials should engage in support strategies with targeted communities and agencies (as identified through stakeholder consultation), review awareness campaigns, and collect feedback from casework and compliance. However, an important step into this direction was already made through the Digital Moldova Strategy. The Moldovan Government should now focus on translating into practice the digital strategy in order to foster the strength the knowledge economy.</p>

Promotional Strategy

Taking Stock of Existing Promotion Strategies (1)

The Moldovan Government, as part of its IT&C Development Strategy for the coming years, has already initiated several promotional activities that have had a positive impact on strengthening Moldova's image as an IT destination market.

A significant part of this strategy is focusing on building and running an image and awareness campaign called "IT Moldova", which aims to convey abroad the competitive advantages of the country for offshore and near-shore operations. We present below the most recent and significant steps that were taken as part of this promotional strategy.

Promotional Activities

A promotional mission for the Moldovan ICT industry was organized within the CeBIT 2014 international ICT fair held in Hanover, Germany. Moldova was represented at this prestigious event by the Moldovan Association of Private ICT Companies.

A promotional mission for the Moldovan ICT industry was organized within the GITEX Technology Week 2014 international ICT fair for the Middle East and South Asia regions, held in Dubai.

A series of seminars was organized together with the Information and Access Moldovan-Korean Center, focusing on bilateral cooperation in the ICT field, following the agreement signed on August 14, 2012.

A Moldovan delegation participated in the 6th edition of the World Conference for the Telecommunication Development 2014, and the Moldovan ICT Ministry's representatives participated in the WSIS+10 Forum, the extended version of the International ICT Summit held in Sharm el-Sheikh, Egypt.

Stock Taking of Existing Promotion Strategies (2)

Promotional Activities

The Moldovan ICT Ministry's representatives attended the GSMA Mobile World Congress ministerial program, held in Barcelona, Spain.

The ICT Moldovan Ministry's representatives attended the International Telecommunication Union (ITU) Plenipotentiary Conference held in Busan, South Korea.

The Moldovan ICT Ministry's representatives attended the ITU, the European Conference of Postal and Telecommunications Administrations (ECPT), Energy, Environment, and Sustainable Economy (eESE), and other organizations' international conferences.

A Moldovan government mission was organized in the Republic of Tajikistan for benchmarking best practices in the ICT field, implementing the e-government project, and setting up a national authority for ICT regulations.

A memorandum of understanding (MoU) was drafted between the Moldovan ICT Ministry and the Chinese ICT Ministry for cooperation in the IT and telecommunication sectors.

A finance agreement was signed with USAID and the Bill & Melinda Foundation to roll out the national program for the digitalization of the public libraries, called "Novateca."

Moldovan Government — Strategic Promotions and Key Initiatives (1)

According to the "IT Competitiveness Strategy for the period 2015-2021", there are two main objectives for increasing Moldova's attractiveness as an offshore/nearshore hub in the region and consequently increasing the country's IT exports abroad. We present below these main objectives as defined in the strategy, and our recommendations for the specific actions that should be taken to reach these objectives.

Objective	Recommendation
Extending exports to international markets especially in the U.S. and EU zone	<ul style="list-style-type: none">• Continue the regular investment missions to capital-exporting countries (e.g., the U.S., Western European countries, and Japan).• Organize frequent domestic investment seminars and workshops in partnership with foreign chambers of commerce.• Publish and disseminate promotional materials locally and abroad as part of the IT Moldova branding campaign.• Engage in support strategies with targeted communities and agencies, as identified through stakeholder consultation, reviews of awareness campaigns, and feedback from casework and compliance.• Undertake targeted strategies to promote Moldova as an offshore/nearshore destination among specific key stakeholders, such as foreign investors, through a range of online learning resources, awareness campaigns, speaking engagements, and customized presentations.• Capitalize on the expertise and work of offshore specialists to develop direct engagement strategies and feedback loops for a diverse range of stakeholders to reinforce the benefits of the market.• Leverage current offshore contracts and promote value-added services such as software analysis, design, and testing.

Moldovan Government — Strategic Promotions and Key Initiatives (2)

Objective	Recommendation
Attracting multinational IT vendors that will further showcase Moldova's IT skills and resources abroad	<ul style="list-style-type: none">• Conduct regular consultations with private-sector organizations for input into national plans and annual budgets and obtain feedback on current government policies, rules, and regulations.• Perform regular reviews of policies, incentives, and procedures to improve Moldova's investment climate.• Extend partnerships with successful IT markets by joining prestigious international bodies and attending international conferences and seminars.• Support the extension of Moldovan companies' presence abroad through the opening of commercial or representative offices.• Adopt a “pull strategy” for attracting international IT vendors, especially for new BPO centers. Similar to the strategy adopted by the Baltic states, rather than promoting the current facilities and resources, Moldova should establish high-level meetings with these vendors, enquire about their specific needs for establishing such centers in Moldova, and offer them custom facilities and favorable investment conditions.• Attend specialized events and forums such as The Outsourcing World Summit, World BPO/IT Forum, BPO Innovation Conference, IDC BPO Conference, etc,• Lobby with specialized associations such as the CEEOA (Central and Eastern Europe Outsourcing Association) to include Moldova in the specialized reviews such as the Central and Eastern Europe IT Outsourcing Review, which includes a catalogue with the major outsourcing providers in the region;• Develop promotional materials that can be further used by the trade support institutions. Also, fostering a national image of quality providers is one of the most important trade promotion initiatives to boost exports of services. Trade support institutions, which represent business can develop a few core messages about competitive strengths that can be used in all promotional materials. They can also collect and publicize “success stories”, set up an awards program, publish national services trade data which include services whenever exports are mentioned, and provide databases of service providers on a national web site.

Moldovan Government — Strategic Promotions and Key Initiatives (3)

Other initiatives

IT Specific Trade Missions

These trade missions would be comprised of IT service firms already involved in offshoring activities. In order to maximize the effectiveness of these missions, the participants should not only meet with potential customers but also with potential partners and local IT&C associations.

Cross Sector Trade Missions

In this case, these trade missions may comprise service companies from several other industries such as finance or manufacturing willing to work together to provide 'bundled' services.

Partnering Events

The purpose of such an event is to encourage collaboration between organizations, either across national boundaries or across sectorial boundaries. Such events can be held for service firms and/or for service industry associations (as in ITC's Bridges Across Borders initiative).

Media Trips

The purpose of this type of event is to raise awareness on the local IT companies' competencies in developed markets where media coverage confers credibility. The structure would be to identify a small group of service firms with unusual capabilities and successes, and then to hire a public relations firm in the target market to arrange a series of media interviews with those firms.

Incoming Missions

Incoming missions from target export markets provide a low - cost opportunity to acquaint potential foreign customers with the capabilities of the local IT service suppliers. The structure would be to have an educational event at which IT service suppliers could provide useful information and showcase successful business cases.

Networking with Investors

Sometimes foreign investors import services (especially professional and business support services) because they are unaware of local capabilities. By providing a structured opportunity to highlight local expertise to local foreign companies, the local IT service providers have thus the chance to also engage in other offshoring activities.

Methodology and Definitions

Methodology

- The data used for the analysis included in the first part of the report focusing on the current size of the IT services Moldovan market, as well as the value of the export of services, was collected from a variety of primary and secondary sources, including, but not limited to, IDC trackers, face-to-face meetings with the main IT players on the Moldovan market, discussions and interviews with the local and central authorities, and desk research.
- Face-to-face meetings were held with the largest IT vendors in Moldova, including but not limited to Daac Systems, Net Info, Endava, Q Systems, Tacit Knowledge, Allied Testing, Cedacri International, Computaris, and Bina Sysems, Pentalog.
- The five year-forecast was compiled primarily using IDC's forecast assumptions tool, which provides a good framework for projecting future market development, as well as reliable benchmarking techniques.
- In the benchmarking analysis, IDC analyzed the key variables that multinational companies identified as being relevant when determining where to establish an offshore center. These variables were grouped by the main categories listed below:
 - Resource Skills Factors
 - Economical and Political Factors
 - Infrastructure Factors
 - Financial Factors
 - Business and Regional factors
- The factors identified above were classified into market drivers or industry constraints based on discussions with local and central authorities, local agencies, and associations, as well as vendors involved in offshore/nearshore activities. For the offshore industry constraints, IDC has developed a list of recommendations regarding future initiatives aimed at turning the constraints into competitive advantages. IDC has also proposed a list of promotion activities aimed at increasing awareness of Moldova as an offshore/nearshore destination.

Definitions (1)

Offshore

- The use of the term offshore generally implies locations from which to source low-cost project-oriented or outsourced IT and business services. The term offshore is usually used from a US-centric view, and thus pertains to locations such as India and China, but also to CEE. Using a broader view, or a more European perspective, IDC includes what is referred to by the term nearshore.

Nearshore

- The use of the term nearshore usually implies a region in which pricing is/costs are at a moderate level compared to the major hubs (also referred to as onshore) of IT and business services, such as the U.S. and countries in Western Europe, but at a higher level compared to places such as China and India. Additionally, nearshore usually includes geographies that are contiguous, or in close proximity, to onshore locations. Examples of nearshore locations that are contiguous, or in close proximity, to an onshore location include Canada and Ireland; in regional terms, they include Central and Eastern Europe.

Engineering and R&D Services

- These include the activities and business processes associated with the creation of products or services. Specific activities may include R&D, product development, and product testing in various industries, such as IT — both software and hardware — manufacturing, and aerospace.

Business Process Outsourcing

- This is the comprehensive outsourcing of most or all of the responsibility for the management and administration of one or more processes to a third party in addition to transaction processing.

Definitions (2)

IT Consulting

- IT consulting consists of the assessment and evaluation of organizations' needs and operations to make decisions regarding their IT strategies and tactics. These activities include process improvement, operations assessment, benchmarking, needs assessment, strategy, capacity planning, change management, maintenance planning, design, and supplier analysis.

Implementation

- Implementation refers to the building of technical solutions. At a point in the planning phase of a project, the focus shifts from the concept to the actual building or prototyping of the system, and implementation activities commence. Much like planning activities, implementation services are delivered as standalone activities or packaged within a larger offering, such as systems integration projects. Activities in this group include site preparation, project management, test and debug, system configuration, installation, software reengineering, custom software development, packaged software customization, application interfacing and integration, relocation services, systems migration, documentation, and user experience design.

Operations Management

- Operations management activities are aimed at taking responsibility for managing components of a company's IT infrastructure or entire IT function, as in IS outsourcing. Operations activities include asset management, procurement, administration and operations, media duplication and replication, systems management, performance tuning, network management, backup and archiving, and business recovery.

Maintenance and Support

- Maintenance and support includes activities involved with ensuring that products and systems are performing properly.

IT Education and Training

- IT education and training activities enhance knowledge of information technology and expand its use. Training services focus on improving performance or developing new concepts, behaviors, and skills