



IDC CEMA RESEARCH PRESENTS

Moldova Moving into the Premier League of IT Nearshoring

Destination Moldova

Chisinau-based software development firm ISD is small but powerful. Its primary team of developers has exceptional expertise in core programming languages and platforms. They also specialize in voice recognition technology, giving them a competitive edge when it comes to key tasks such as speaker recognition, speaker adaptation, phonetic transcript creations, and support for different dialects. By deploying an agile customer-focused development methodology, they have secured contracts in the Netherlands, Germany, Belgium, Spain, Finland, and other European Union (EU) countries. Marquee clients include global powerhouses DHL, Xerox, Ford, Estee Lauder, and LG.

That IT developers based in Moldova service major international brands speaks to the country's emerging strength as an IT nearshoring and offshoring destination. While ISD is a home-grown firm, it works with partners to secure international contracts. Meanwhile, companies such as Endava and Pentalog have set up centers in the country to leverage local expertise. Just like Poland, the Czech Republic, Hungary, and Romania, Moldova has generated a disproportionate amount of IT talent given its size. The country has strong technical and educational traditions and a solid IT sector that provides invaluable experience to ambitious graduates. The country is also geographically well positioned and comes equipped with a linguistic and professional culture compatible with both Europe to the west and the Commonwealth of Independent States to the north and east.

Moreover, the government has actively developed policies and initiatives designed to promote foreign and domestic investment in the country, creating highly favorable corporate tax regimes and free economic zones and industrial parks. Information technology is a particular focus. Virtual IT parks, incentives designed to spur the software sector, tax programs to prevent brain drain, and training programs for IT specialists are all contributing to an IT ecosystem that increasingly exports development, quality control, and application customization and support to Europe, North America, and Russian-speaking countries.



An IDC Study

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Competitiveness Enhancement and Enterprise Development II (CEED II)



The country is not perfect. It is too small for service centers requiring thousands of workers handling tens of thousands of questions or requests per day. An efficiency-minded business culture is still developing. Although management practices and leadership have improved considerably in the past decade, more is still to be done in terms of best practices, expectations, and process establishment. And industrial sectors such as finance, telecom, manufacturing, and retail receive most of the focus of software and IT services firms.

That said, Moldova's IT environment is proving a competitive alternative to "classic" destinations. Second-tier IT companies have been successfully using Chisinau for sourcing operations for fifteen years. It is probably just a matter of time before large global players open centers. Moreover, a number of home-grown IT firms such as Allied Testing, Deeplace, and the route-optimization firm Noction have garnered international acclaim, customers, and backing.

Moldova may not be suited to all organizations looking to locate a sourcing center offshore, but it could do the job for many, particularly for companies interested in smaller, high-end operations.

Researched and written on behalf of the Competitiveness Enhancement and Enterprise Development II (CEED II) project, implemented by Chemonics International, Inc., and funded by the United States Agency for International Development (USAID) and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), this IDC White Paper reviews the possible benefits of opening an ICT nearshore/offshore center in Moldova, what organizations should plan for if they do set up shop, and IDC's perspective of overall viability.

Ready to Go — the Moldovan Hat-Trick

Moldovan IT professionals have been growing progressively more skilled as both training and opportunities grow within their country. It does not hurt that many speak two, and often three, languages, helping ensure a global outlook, as well as the ability to provide service abroad. And the government is lending a hand. It has developed numerous incentives for attracting foreign companies (including instituting a low corporate tax rate) and keeping IT experts at home. It has made it easier to start and do business in the country, while creating an environment conducive to growth.

ICT Talent – Strong, Growing, and Multilingual

Solid Players for Assembling Winning Teams

Anecdotal evidence has started piling up in support of the rising ability of Moldovan IT and technical specialists. One CEO of a small software firm has developers in the U.S., Moldova, and Mexico and has nothing but praise for his Moldovan team. Moreover, salaries have risen and more than a few

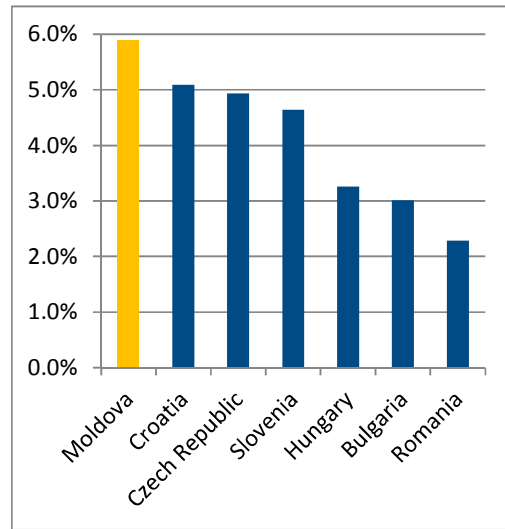
Moldovan IT professionals have returned home, bringing their international experience with them.

In terms of hard numbers, proportionally, Moldova is on par with other Central and Eastern European countries in terms of the generation of technical talent. In 2013, the number of skilled ICT professionals in Moldova reached 21,000. Well over 80% are technical specialists, including software engineers, analysts, developers, and project managers. Depending on how you count, upward of one-quarter work in the software industry alone. IDC's examination of the combination of available skills suggests that Moldova is particularly well positioned for core activities, such as web development and basic coding, and high-value activities, such as analysis and design and software development and testing. (It is not well suited to the kind of low-level and high-volume operations found in India and China.)

More on the Way

Universities and technical colleges are steadily producing graduates. For instance, the number of math and computer science graduates in Moldova

Computer Science and Mathematics Graduates (% of Total Graduates), 2013



Source: Eurostat, National Statistics Offices, 2015

was stable from 2010 to 2013, at just under 6% of the total number of graduates, well ahead of Bulgaria, Croatia, Hungary, and Slovenia. (Though these countries have increased the proportion of math and computer science graduates, they are still well below the rate in Moldova.) In Romania, the proportion actually dropped from 2010 to 2013. Moreover, engineering accounted for just under 13% of total graduates in 2013; not as high as regional leaders

Romania (19.5%) and Slovenia (16.6%), but about the same as the Czech Republic (12.2%) and a good deal more than Hungary (10.7%).

Skills Improving

And IT is about to get better. In cooperation with the Technical University, a consortium of organizations (including USAID, the Moldovan Association of Private Companies, Microsoft, and IBM) are launching an IT Excellence and



Innovation Center. Set to open by the end of 2015, it will provide a combination of training courses, certification programs, startup accelerators (coaching, mentoring, workspace provision, and funding), and opportunities to host and attend events, run workshops, and conduct research. The multimedia and 3D labs will be designed to foster entrepreneurial, coding, design, architecture, and leadership skills. Every year, the center aims to provide training for 1,000+ individuals and to influence up to 50 startups, helping 20 of them accelerate. IDC believes it will be a driving force of the development of the Moldovan IT ecosystem.

Finally, while English proficiency among graduates is lower than in other Southeastern Europe (SEE) countries, French proficiency is much higher, meaning Moldova could easily follow in Romania's footsteps to become a primary supplier to French-speaking countries. Moreover, Russian is widely spoken and still used at all levels of state and society, with around half of the population speaking the primary language of the CIS. (Offshoring firm Moldovan Call Center has taken advantage of this, offering services in six languages: English, German, French, Italian, Spanish, and Russian.)

Comparison of Resource Skill Factors — Languages, 2013

	Moldova	Czech Republic	Hungary	Romania	Bulgaria	Croatia	Slovenia
English Language Education	242,200	730,340	610,245	1,689,547	431,083	338,162	141,493
German Language Education	17,100	300,682	343,657	151,196	101,604	143,880	60,852
French Language Education	272,410	40,101	24,423	1,486,759	37,540	9,250	5,053

Source: Eurostat, 2015

Government Incentives – Assists from Valuable Teammates

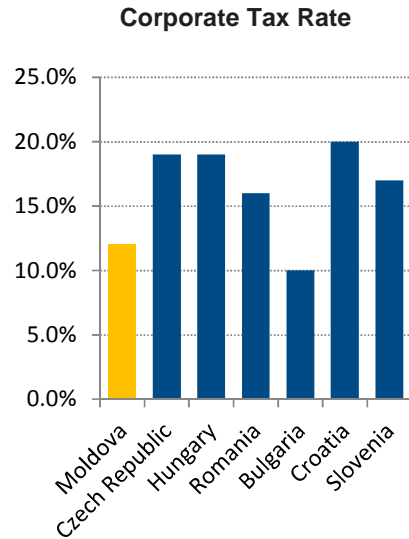
With its push to have one of the fastest Internet speeds in Europe back in 2010, the government showed quite a while ago that it believes ICT is an essential component of business, education, and economic development. (While other countries have since passed Moldova, according to Net Index, the country remains in the Top 20 worldwide and sports LTE coverage.) At the same time, it had to wrestle with the brain drain caused by the allure of higher salaries, not just elsewhere in Central and Eastern Europe, but also globally. It therefore took steps on several fronts to ensure a business environment conducive to both cost-conscious organizations and those companies planning to expand operations.

The Kick Off — Setting up Play in Moldova Is Easier Than You Think

As a result of government efforts, Moldova has jumped 45 places on the World Bank's Ease of Doing Business index since 2009, when it ranked 108. In 2015, the country grabbed the 63rd position. The effort required to set up a business is also regionally competitive, with the entire process averaging just 6 days — 2

days less than Romania, 9 days less than Croatia, 12 days less than Bulgaria, and a whopping 24 days less than Poland.

It also costs far less. According to the World Bank Group's data on doing business, in Central and Eastern Europe, only Bulgaria and Ukraine have lower startup costs than Moldova.



Note: Hungary taxes profit of up to HUF 500 million at 10%; additional profit is taxed at 19%.

Source: World Wide Tax, 2015

Business startup expenses in Romania and Russia run around 50% higher than in Moldova; in places such as Poland and the Czech Republic, they are an order of magnitude higher.

Free Economic Zones and Industrial Parks

Once firms are up and running, the government provides a number of incentives to ensure costs stay low. Seven zones and two areas with a legal status similar to the zones have been established in the country.

Though the zones are general purpose, so to speak, they nonetheless help ICT suppliers. Companies doing business within the zones receive considerable financial benefits and legal protections, such as value-added tax (VAT) and duties exemptions, discounted or zero tax rates depending on the activity, and 10 years of protection from changes to laws that could adversely impact businesses. A multitude of additional benefits relate to the transfer of profits and ownership titles, the trade of goods and services within the free zones, and tax exemptions related to the level of overall investment.

Fiscal Incentives and Trade Agreements

For IT and communications companies setting up shop in Moldova, the corporate tax rate was zero but is now 12%, a standard rate still well below most other countries in the region. In addition, most software companies can qualify for reduced social insurance contributions (based on a fixed percentage of just two months' salary rather than the same percentage applied to the total annual wage). This program is designed to draw investments from large IT companies, which, in turn, should encourage additional investments from smaller companies looking to work with them or for them in other capacities. It is also aimed at young entrepreneurs interested in starting their own companies.



Furthermore, the income of employees at software companies is subject to an income tax exclusion (for income above MDL 9,000 per month). The exclusion applies through 2016 (but has been extended before), and should encourage IT professionals to stay in the country, increasing the overall IT talent base.

Business and Financial Factors

	Moldova	Czech Republic	Hungary	Romania	Bulgaria	Croatia	Slovenia
Days to Start a Business (2015)	6	19	5	8	18	15	6
Days to Register Property (2015)	6	72	17	19	10	72	110
Standard VAT	20.0%	21.0%	27.0%	24.0%	20.0%	25.0%	22.0%
Employee-Related Costs	27.0%	34.0%	28.5%	28.5%	18.5%	15.2%	16.1%
Government Incentives	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Source: World Bank/World Bank Group, World Wide Tax, 2015

Finally, Moldova's geographic location has made it ideally suited to sign trade agreements bridging East and West. It is a member of the Commonwealth of Independent States Free Trade Area and a signatory to the Central European Free Trade Agreement, which includes both EU and non-EU member states. And the Deep and Comprehensive Free Trade Agreement with the European Union, which includes the trade in services, has been provisionally in effect since September 2014, which should open new commercial opportunities with Western Europe.

Macro Moldova — More Goals in the Country's Future

As an emerging market, Moldova has ample room to grow — and is expected to do so for at least the next few years. While the country has been impacted by the slowdown in Western Europe, it has proven fairly resilient. According to the National Statistics Office, gross domestic product (GDP) expanded 8.9% in 2013 and an estimated 4.6% for 2014. According to World Bank (and other) forecasts, solid growth will continue, with annual GDP growth remaining at around 4% through 2016. Government programs and privatization are boosting economic activity. Foreign direct investment (FDI) continues to pour into the country. Though off its 2008 peak, it accounted for around 2.2% of GDP in 2012. And small and medium-sized businesses (SMBs) are expanding their operations.

Comparison of Economic and Political Factors — Economy, 2013

	Moldova	Czech Republic	Hungary	Romania	Bulgaria	Croatia	Slovenia
GDP Per Capita (USD)	2,204	18,851	13,380	9,502	7,302	13,651	24,568
Purchasing Power Parity (USD)	3,682	27,186	20,026	14,284	14,453	18,316	30,100
Consumer Price Index	4.6%	1.4%	1.7%	3.2%	0.4%	2.3%	1.9%
Unemployment Rate	4.4%	7.0%	10.8%	7.3%	13.0%	17.2%	10.1%

Source: World Bank, EIU, NSOs, 2015

Yet, as with starting a company, the general costs associated with doing business are low. Commercial property is widely available in Chisinau. The average price of non-IT labor is less than half that in nearby countries, including the Czech Republic, Poland, and Hungary; and it is 20–35% lower than in Bulgaria and Romania.

Moreover, the IT services and telecom markets are helping drive awareness and use of ICT. Despite the relatively high price of mobile services, both businesses and consumers are embracing mobility. This will help drive spending on content-based services, opening the door to independent software vendors and mobile applications developers. Meanwhile, the government is sponsoring a number of large-scale IT projects, while banks are increasingly making services available online, both of which generate demand for IT consulting and integration services.

It all sets the stage for continued IT market development. IT spending per capita is still very low, meaning lots of room for growth exists. Companies in growing markets can rarely stay competitive without IT systems in place that can be scaled up and readily adapted and connected to the systems of suppliers and partners. IDC therefore expects individuals and businesses moderately well-equipped with hardware to trigger a need for task- and industry-specific software solutions. Unsaddled with legacy systems, many companies may even be able to leapfrog to state-of-the-art solutions that incorporate tablets, smartphones, networking, and various applications.

This has also been a boon to nearshoring and offshoring centers. Building on the growing foundation of infrastructure in the capital (outside of Chisinau, things are still fairly undeveloped), IT companies have set up service and development shops. Demand has been significant, with a range of IT services providers, software developers, and even call-center outsourcers establishing operations, resulting in IT services exports being twice as large as domestic IT services spending. The net effect has resulted in workers with a regional and global outlook that is well suited to delivering services abroad.

Comparison of Financial Factors — ICT Spending and Penetration Rates, 2013*

	Moldova	Czech Republic	Hungary	Romania	Bulgaria	Croatia	Slovenia
IT Market (US\$M)	\$152	\$5,177	\$3,047	\$2,979	\$1,118	\$1,092	\$804
Hardware (% of total IT)	73%	45%	53%	69%	73%	53%	47%
Software (% of total IT)	12%	21%	21%	14%	14%	16%	32%
IT services (% of total IT)	15%	34%	26%	17%	12%	31%	21%
IT Spending Per Capita (US\$)	\$42	\$492	\$308	\$149	\$154	\$257	\$422

Note: These numbers do not include the IT and BPO export market, which was around \$57 million in 2013 and will reach \$110 million by 2018. Some percent totals may not add up to 100% due to rounding. Source: IDC, 2015

Plan for It — Tightening the Team

IT professionals in Moldova may be increasingly talented, but they continue to focus on a narrow range of industries and IT areas. And, while their skill sets have become solid, new graduates, and even those with some professional experience, need additional training to join global project teams. While Moldovan company and team leaders are progressively versed in management theory and equipped with invaluable experience, firms still need to shed legacy processes and structures that date back decades.

ICT Talent — Broader Pitch Experience in Order

Despite growing recognition that Moldovan coders and application specialists can deliver high-value services abroad, their scope is still rather limited. In terms of technology, Moldovan programmers are well versed in .NET, JAVA, C/C++, C#, PHP, and other core processing languages. They also regularly work with databases and iOS-based development. Given these areas account for the great majority of tools needed to create business and mobile applications, Moldovan ICT specialists are well equipped to tackle most projects.

But, so far, they have mainly been tasked with projects stemming from a limited number of industrial sectors. Finance tops the list, with home-grown firms in particular having secured contracts with major banks in Western Europe. IT services exporters are also active in manufacturing, telecom, and retail. Again, regional players and smaller global players with Moldovan operations have a number of prominent clients in each sector. But almost nothing has come from media, transportation, education, government, or utilities.

There is also a strong focus on application development, testing, and customization. While the country is arguably too small to supply specialists for large IT support operations (as do countries such as Poland and India), regional and global suppliers could do more to tap the potential consulting market, especially in vertical markets such as those named above, in which Moldovan IT developers have garnered considerable expertise and experience.

Training Required — Adding Experience to Intelligence

Just because training is considered important and is generally a positive part of the corporate world, does not mean it happens. International companies operating in Moldova are generally diligent about ensuring staff are trained, either locally or at head offices or training centers abroad. But local companies often lack the budget and access to qualified trainers to provide their staff with technical skills seminars and business skills workshops. All told, only around one in four technical and business specialists in Moldova receive workplace training. The larger impact on the overall labor pool will be clear: It can take time to find people with the right skills up front.

The IT Excellence and Innovation Center scheduled to open toward the end of 2015 will help change this. It will help fill the skills and knowledge gaps of students and recent graduates entering the workplace. But it cannot do everything. When setting up offices and nearshore/offshore centers, international companies need to include skills development programs. This should include short courses or certification programs in everything from Windows and Linux to Java and C# to enterprise resource planning (ERP) and security systems, to name just a few examples. For both managers and ground-level IT specialists who work directly with international clients, call center management, effective coaching, call monitoring, customer care, phone etiquette, and customer relationship management (CRM) system utilization will all be de rigueur.

Leadership Improving, But New Formations Needed

A lot has changed in the past ten years. Moldovan business leaders have returned from abroad equipped with management experience. Non-Moldovan managers and directors have helped introduce best practices for motivating staff, allocating resources, and driving projects forward.

Nevertheless, the country still has a way to go. Managers have come a long way in the last decade, but organizational structures and cultures still need to change. At local branches of international companies, large chunks of tasks related to business development, marketing, and strategic management are handled abroad, limiting local staff exposure to what it entails. Among local SMBs, directors and owners often handle marketing, HR, and other specialized business areas on their own.

While larger companies now have departments for dealing with different areas of the business, room for development exists. As a result, the business environment is still instituting a management and process-oriented culture, where role models and time-tested procedures allow promising leaders to learn through observation and mentoring.

The IDC Perspective

The early days for both the overall IT market in Moldova and for the country's role as a nearshore/offshore location are close to passing. By 2018, annual internal IT services spending will be around 40% higher than it was in 2013. Meanwhile spending on nearshore/offshore activities will nearly double. While the potential for building cost-effective centers is high, the market is small and international vendors that move quickly will have the advantage.

Ready to Play in the Big Leagues



The current hardware focus of the IT market, along with a number of other development trends and indicators (e.g., GDP per capita, public/private partnerships, FDI levels, and IT spending per capita), paints a familiar picture in CEE: IT market growth is set to continue. The volume of services exported from Moldova reflects this. Growing from a small base, it expanded tenfold from 2002 to 2010; it then rose by another 35% through the end 2013. While such high double-digit growth will be hard to maintain, IDC believes Moldova will continue its rapid growth in terms of IT services exports, as it is becoming a preferred choice for sourcing locations across Southeastern Europe.

Many regional and international SMBs know this. Firms such as Pentalog, Endava, Ritlabs, Mediasoft, Noction, and ISD have all leveraged Moldovan talent to great effect. Endava sports a business model based on industry-specific expertise, an agile "blended" delivery model, and a strategic pan-European presence that enables access to a large pool of IT talent in Eastern Europe. Noction likewise leverages a multinational team to develop and promote its networking software. ISD has landed contracts with DHL, Xerox, Ford, and LG.

In other words, the country has legs. It also has time-zone and cultural compatibility with Europe and the CIS. IDC believes that, by taking a proactive approach that accounts for the underdeveloped management environment and potential skills shortages, forward-looking organizations can ensure a steady supply of qualified labor for their nearshore/offshore centers.

But firms need to get moving. Unemployment is down and IT salaries are on the rise, as international companies have been realizing the potential. Moldova lacks the population base of India or China and should not be utilized for low-end work or thought of as a place to scale up operations into the thousands. Rather, its potential lies in a combination of core activities such as web development, basic coding, and high-end activities related to business application and mobile application development.

As its base of ICT workers expands in number and in breadth beyond the current vertical market focus, the country will attract additional interest as an outsourcing center. Getting in Moldova sooner than later will enable companies to take full advantage of its benefits.

Anyone interested in learning more about Moldova should contact the Moldovan Investment and Export Promotion Organisation via invest@gov.md.

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Method and Definitions: Please see the original IDC White Paper for a detailed description of definitions and research methodology. It is available at: [http://www.mtic.gov.md/img/d2011/download/2012/02-24/CEMA17850\[1\]_Final.pdf](http://www.mtic.gov.md/img/d2011/download/2012/02-24/CEMA17850[1]_Final.pdf).

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