

UNITER



# IT-Services industry



## IT-industry

### ***971 companies operate in the IT-industry in Belarus***

According to the web-portal dev.by, IT-industry in Belarus is presented by more than 971 companies, with only 24 state-owned (less than 2,5 %). IT-companies are mostly located in Minsk (more than 90%).

### ***152 HTP resident-companies***

As at January 2016, 152 companies operated in HTP. Classifying HTP resident-companies by the origin of attracted investments, 62 companies (41 %) were founded by Belarusian investors, 54 companies (35%) were set up by foreign investors, 36 companies (24%) were joint ventures.

### ***IT-services production and sales revenue of Belarusian companies amounts to USD 1120 mn***

According to the official statistics, the IT-services production and sales revenue of HTP Belarus resident-companies amounted to about USD 770 mn (BYR equivalent 12,58 tn), which established annual growth rate of 119%, adjusted for the changes in Belarusian ruble/US dollar exchange rate and GDP deflator. Total production and revenue of Belarusian IT-industry amounted to USD 1120 mn in 2015 (monitoring).

### ***90% of Belarusian IT-companies develop custom software***

In 2015, more than 90 % of Belarusian IT-companies developed customized software, which confirms the absolute advantage of this type of activity in the Belarusian IT-market. And only 30 % of the total number of companies are marketed as solely “service-oriented”.

### ***Domestic consumption of IT-services in 2015 amounted to USD 421 mn (monitoring)***

In 2015, the amount of IT-services consumption totaled USD 421 mn. Domestic consumption of IT-services was at the low level of USD 86 mn (monitoring).

### ***Computer services exports amounted to USD 785 mn at the end of 2015***

At the end of 2015, computer services exports amounted to USD 785 mn, USD 705,6 mn of which was exported by HTP resident-companies. IT-services exports have increased more than 50 times over the past 10 years. According to the results of the 2015 year, Belarusian IT-services imports are significantly lower than exports and constitute USD 80 mn. IT-services exports are expected to rise by 15-20 % in 2016. Growth rate of imports is projected at 5-7%.

### ***USD 145,3 mn of FDI on a net basis were attracted to HTP in 2015***

At the end of 2015, FDI on a net basis to HTP resident-companies totaled USD 145,3 mn.

### ***HTP provides special business environment to IT business in Belarus***

Hi-Tech Park, established in 2005, provides a wide range of advantages for resident-companies. HTP resident-companies relations as well as accession rules are regulated by the Decree of the President №12 “On the Park of High Technologies”.

### ***10 Belarusian companies are ranked among the world's 500 largest software and service providers***

10 Belarusian companies were included in Software Magazine's *Software 500* ranking of the world's largest software and service providers. Companies that were included into this prestigious ranking are the following: IHS (HTP resident-company) is ranked 64th, EPAM Systems— 122th, Bell Integrator — 228th, Ericpol Telecom— 296th, IBA— 301th, Itransition— 374th, SoftClub — 417th, Coherent Solution — 418th, Artezio— 436th, Intetics— 444th.



# IT-industry

## Size of the industry

At the end of 2015, IT-services production and sales revenue of Belarusian companies exceeded USD 1 bn. Growth rate increased to 114 %. CAGR of IT industry constituted 30 % over the last 5 years.

According to the official statistics, the indicator of IT-services output includes software publishing, software development and related consulting services, data processing, database activity monitoring. Costs allocated for the development of own IT-products and services for internal use are also included in this indicator.

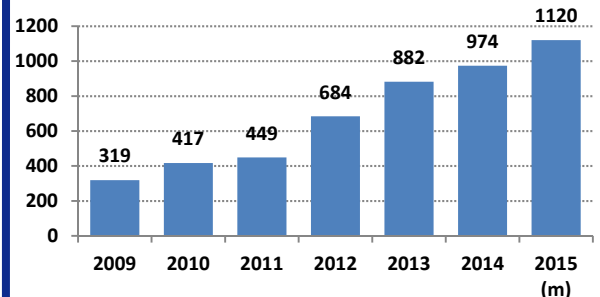
Software development and consulting services related to it constitute the bulk of the IT-production and services development (85 %). According to the preliminary data, the highest rates of output growth is accrued to software development (159 %) and data processing activities (180 %). It supports the expert forecast of the most promising areas for growth. The experts also report that the growth in these segments will be ensured by the development of big data processing and the information obtaining systems Business intelligence (the programs designed to improve business decision making by using business data systems).

According to the official statistics, IT-production and services are divided into:

- Software publishing
- Software development and consulting services related to it
- Data processing
- Database activity monitoring

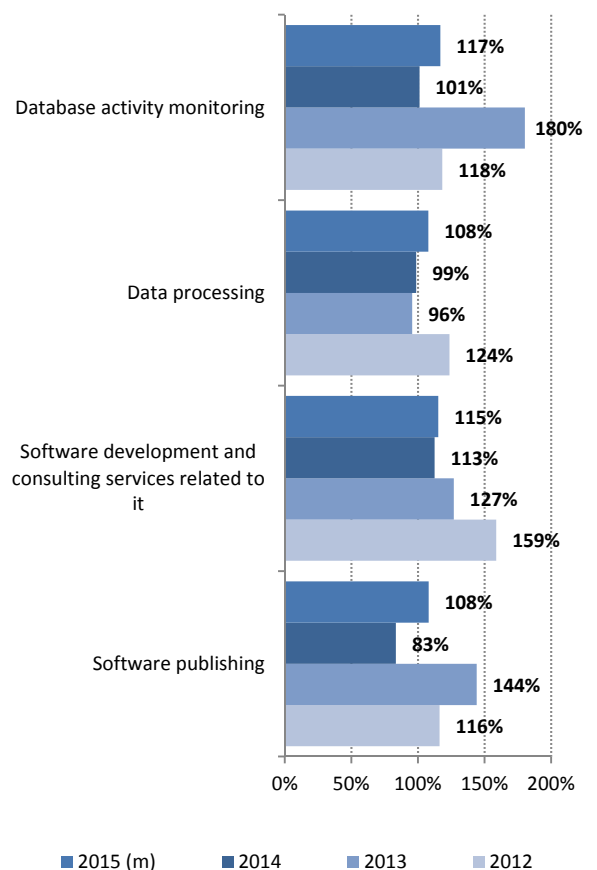
IT-services output indicator includes also IT-services produced for internal use (e.g., automated control systems, etc.).

IT-production output, mn USD



Source: National statistical committee of the Republic of Belarus, UNITER (monitoring)

IT-production growth rate by sectors, %





## IT-industry

### Resource potential of the industry

The most distinctive factors influencing the competitiveness of Belarusian IT-industry:

➤ Geographical and cultural proximity to Europe. The peculiarities of Belarusian business ethics are very similar to the European and American ones, therefore Belarusian IT-sector is frequently perceived as nearshoring (different from offshoring).

➤ Developed infrastructure. The Republic of Belarus has been a center of high tech industry since the Soviet period. During the Soviet era, Belarus were accounted for significant investments in infrastructure, high-tech manufacturing as well as research and development. The Republic of Belarus has managed to maintain and improve this infrastructure base.

➤ High level of education. Technical education system, which had been formed during the Soviet era, still remains one of the best in the world. That leads to the fact that Belarusian IT-specialists nowadays belong to the highly qualified in the region. The preliminary 2015 data suggests that the total number of employees in Belarusian IT-industry amounted to approximately 36 000 people. As at January 2016, the total number of employees in the High-Tech Park (HTP) amounted to 24 037 people. During 2015, 3 042 jobs were created there.

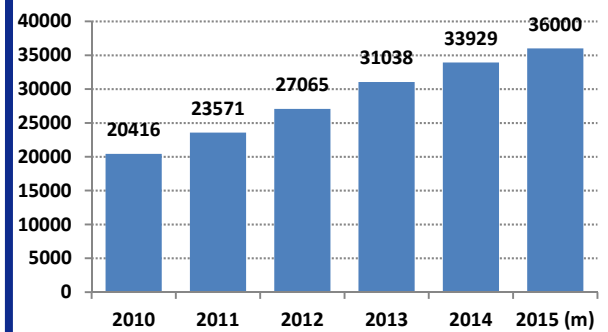
➤ Generous tax incentives. It should be noted that the state policy in this direction is characterized as stable and predictable. HTP, which provides tax-incentives and other advantages to IT-companies, has been functioning in Belarus since 2005.

#### SALARY

The crucial criteria for the IT-market assessment are salary and salary rates of specialists. The salary level in the Belarusian IT-industry exceeds the average level in the country by 3-4 times. According to dev.by, at the end of 2015 the average salary in the IT-industry totaled USD 1600 which is USD 85 less than for the same period in 2014. Nevertheless, the salary of Belarusian IT-specialist is much lower in comparison to many IT-services exporting countries what is considered to be the main competitive advantage of Belarus.

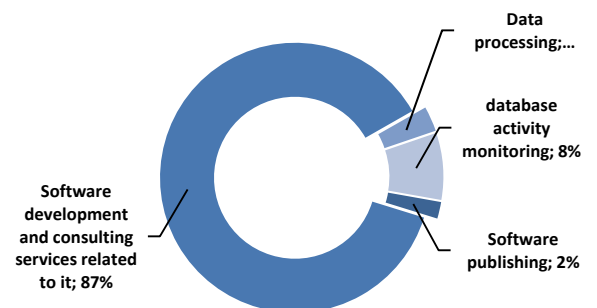
The labor market in the IT-industry is characterized by a high demand for specialists. The salary range of each specialists category in IT-industry is very broad, since the salary in each case depends on the company and its turnover. A higher salary level is typical for market's large players. The average monthly salary for management varies between USD 2000 and 5000. The monthly salary for support personnel is the lowest and amounts to USD 300-800.

Average number of IT-specialists

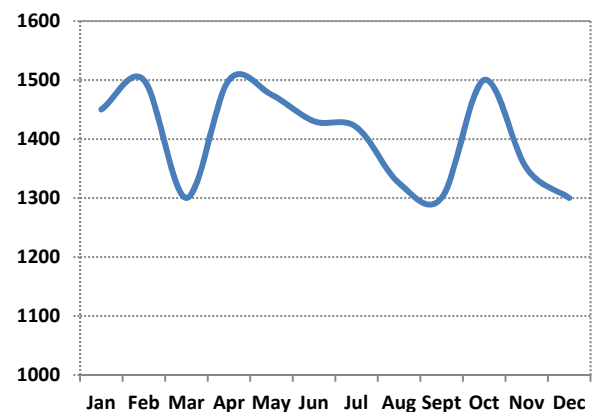


Source: National statistical committee of the Republic of Belarus

Distribution of IT-specialists by activity, in % of the total number of IT-specialists



Average salary level in 2015, USD per month



Source: dev.by



# IT-industry

## Structure of the industry

2 main business models for the analysis of Belarusian IT-market segments are distinguished:

**Service-oriented business model.** The company develops customized software. As a result, contract related intellectual property belongs to the customer's property. According to the experts, more than 90 % of Belarusian companies developed customized software in 2015. This fact confirms the prevalence of this type of activity in the Belarusian IT-market. Along with it, only 32,7 % of the total number of companies are marketed as solely "service-oriented".

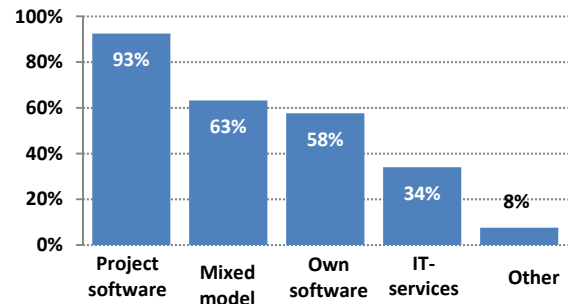
**Product-oriented business model.** The company under this model is engaged in production and licensing of new technologies/software as the complete product, or as the part of other software products. Software vendors or licensor companies are usually the customers for this type of companies. 58 % of Belarusian companies offer their own "products". Only 8 % of the total number of companies are exclusively engaged in the development of their own software.

It's important to note that the majority of Belarusian companies use a **mixed model**. More than 60 % of Belarusian companies combine service- and product-oriented business models. In practice, even the largest leading companies have more than 50 % of custom software development while deploying. At the same time, there are "service-oriented" companies that use their "software assets" while developing solutions for a customer without asking for a "direct" remuneration for these investments. Many companies supply their "products" according to the "service-oriented" model. As a result, the companies more often offer their solutions as a combination of "product" (or many "products"), custom software and efforts made to integrate them.

Besides these three models, there is usually also the fourth one which is called **business process outsourcing (BPO)**. BPO is the contracting of nonessential business tasks to a third-party services provider (filling in statistic forms, cards, etc.). BPO is currently not a widely-used model for Belarusian IT-services and IT-products market.

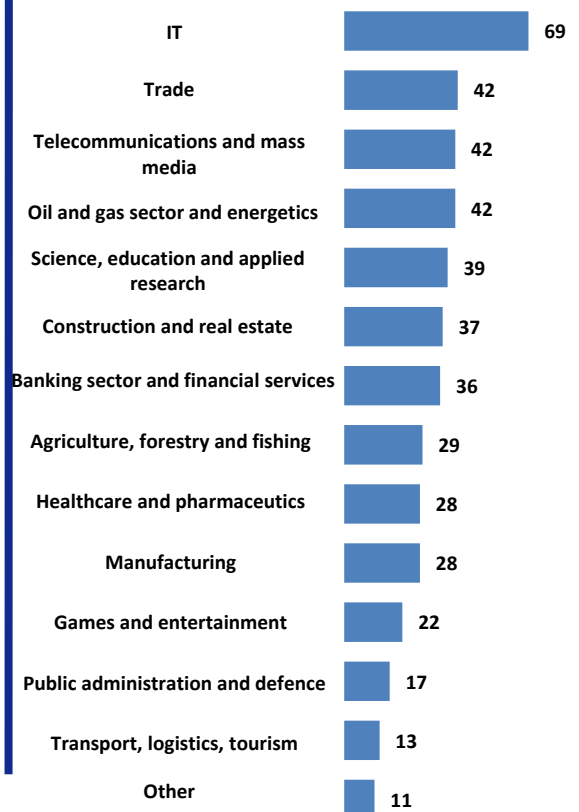
The most common outsourcing solutions are application programs, with 88,7 % of companies engaged in their development. They are followed by application development and deployment software (47,2 %) and system software (23,6 %). More than a half of companies engaged in own software development offer application software. About one quarter of the total number of companies offer system software products.

Segmentation of offshore programming industry by business models, %



Source: HTP

The scope of IT-products (works, services), % of total number of IT-companies



Source: HTP

# IT-industry

## Size of the industry

Dev.by reports that the total number of companies in IT-industry amounts to more than 971, with only 24 of which are state-owned (less than 2,5 %). IT-companies are mainly located in Minsk (more than 90 %), while 152 companies operated in HTP as at January 2016. A large number of IT-companies use staff outsourcing.

Belarusian IT-market is relatively young; more than 50 % of Belarusian companies operate less than 5 years in the market. "Experienced market players", which operate for 6 to 10 years in the market, constitute 31 %. The pioneers in the market with more than 11 years of experience in the IT-industry amount to 17 % of the companies.

The majority of IT-companies are medium-sized (10-200 employees). The share of such companies of the total number of companies is 73,8 %. Apart from small and medium-sized companies, there are also big market players. The experts consider Gamestream, Sam-Solutions, ScienceSoft, EPAM, Belhard, IBA, BelSoft to be the main large companies of the export-oriented programming market in Belarus. For example, EPAM with more than 6000 employees is the largest IT-company in Belarus.

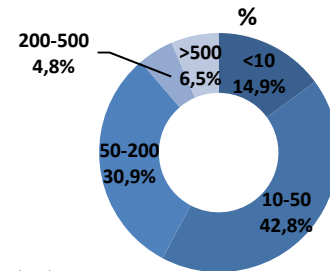
More than a half of Belarusian IT-companies are using foreign capital. The most common forms of legal entities are joint ventures and foreign companies, but the foreign capital generally belongs to Belarusians who have earlier left the country. Belarusian companies constitute 41 % of the market.

The founders of 35 % of all IT-companies are residents of the same country.

HTP was established in 2015 and now includes 152 companies (+15 companies during the 2014). Nearly 24 000 computer programmers work there, who carry out high-tech projects for customers in 61 countries. The market share of HTP resident-companies amounts to 80 %. Their export share reached 89 % in the total computer services exports at the end of 2015 (40,2 % of them are exported to USA and Canada; 46,7 % - to European countries, the remaining part is exported to CIS and Asian countries).

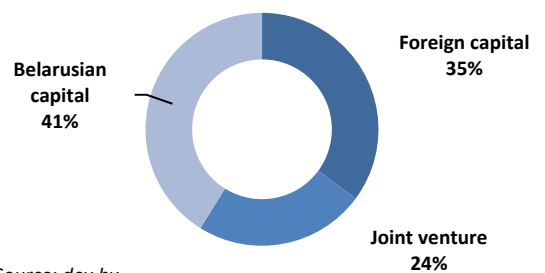
The largest HTP resident-companies are EPAM Systems, Sberbank-Technology, Itransition, Game stream, etc. The largest HTP non-resident companies are IBA, SaM Solutions, ST Group, AGAT-Control Systems, OJSC INTEGRAL, etc.

**Companies structure by number of employees of total number of companies,**



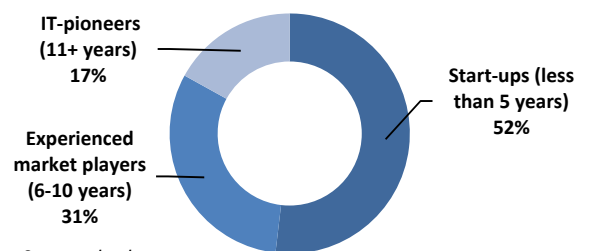
Source: dev.by

**Ownership structure of IT-companies (in % of HTP resident-companies) in 2015**



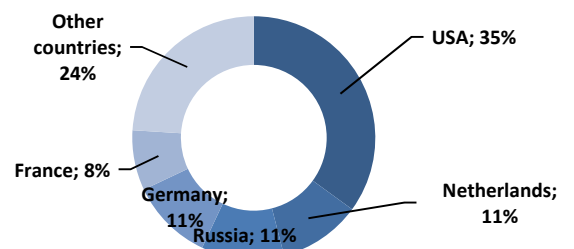
Source: dev.by

**Time of existence of HTP resident-companies**



Source: dev.by

**Structure of the foreign companies (founders are the residents of the same country)**



Source: HTP

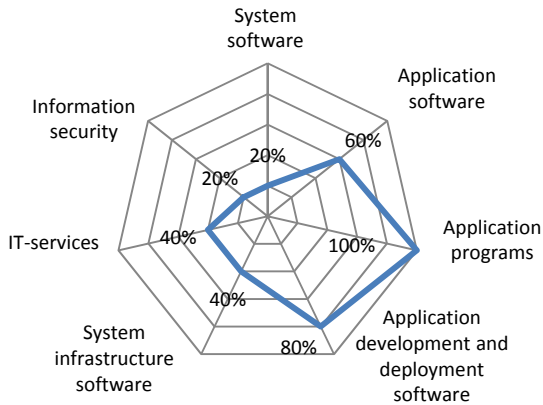
# IT-industry

## Consumption

According to the preliminary data for 2015, domestic consumption of IT-services in the Republic of Belarus amounted to about USD 421 mn. This indicator also includes the consumption of IT-services designed by companies for internal use. But the consumption of IT-services without including companies developments for internal use is much lower. This indicator amounted to only USD 90 mn at the end of 2015. The main software consumers are the authorities and large private companies such as banks, information and communication technology companies (communications service providers), etc.

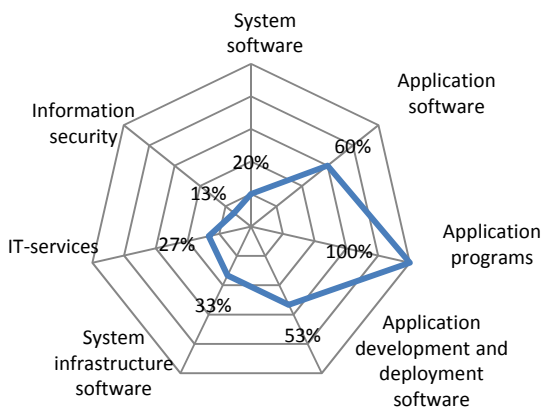
At the moment IT-industry is export-oriented. The main consumers are the companies of Russia, USA, Germany and the UK. Application programs and application software are the main products consumed in CIS countries as well as European and North American countries.

**Distribution of the main IT-products consumed in Russia**



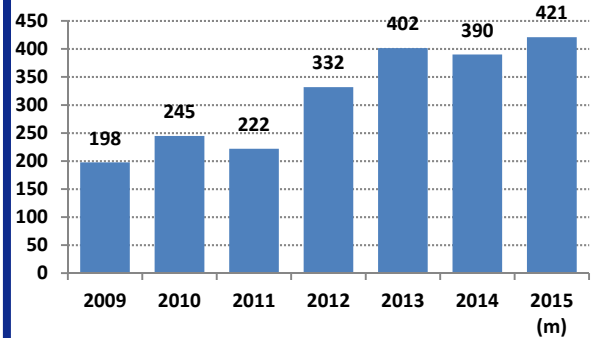
Source: HTP

**Distribution of the main IT-products consumed in USA**



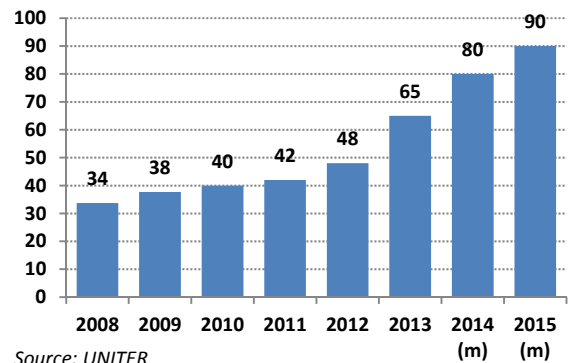
Source: HTP

**Total amount of domestic consumption of IT-services, mn USD**



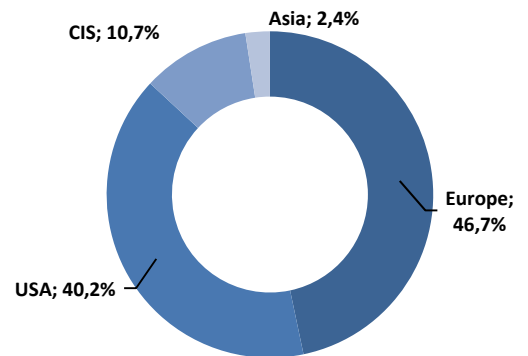
Source: National statistical committee of the Republic of Belarus

**Domestic consumption of IT-services without including IT-products for internal use, mn USD**



Source: UNITER

**Geographical structure of the international consumers of HTP resident-companies IT-services by region in 2015**



Source: HTP



## IT-industry

### Foreign trade

IT-services exports been growing steadily for many years. During the last 8 years it has increased more than five-fold, and that is, undoubtedly, an outstanding result not only within the domestic economy, but also on a global scale. Along with the growth of absolute export indicators, relative ones are also increasing. The share of computer services in the services exports structure has increased from 1,27 % in 2005 to 9,0 % in 2015.

Computer services exports constituted USD 785 mn at the end of 2015 (+14 %). The Republic of Belarus is among the leaders in the export of computer and information services per capita. This indicator has increased from USD 5 per capita in 2005 to USD 83 per capita in 2015 (+13 % compared to the year 2014).

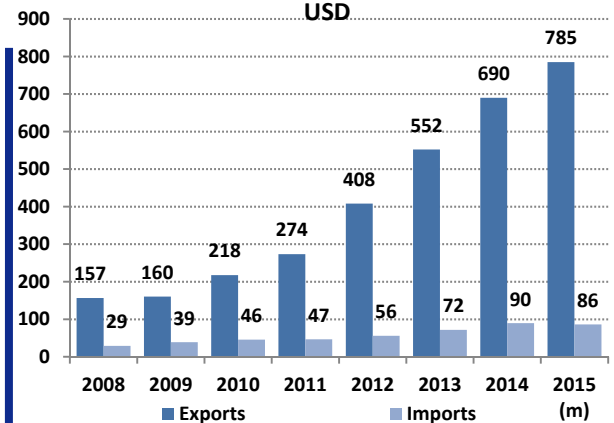
HTP resident-companies software and services exports amounted to USD 705,6 mn in 2015 (+21 %). The share of exports in the total HTP production constituted 91,5 %. The software developed in the HTP was exported to customers in 61 countries, while 46,7 % of exports was accounted for by Western European countries, 40,2 % - by USA, 10,7 % - by CIS countries.

10 Belarusian companies were included in Software Magazine's **Software 500** ranking of the world's largest software and service providers. Companies that were included into this prestigious ranking are the following: IHS (HTP resident-company) is ranked 64th, EPAM Systems— 122th, Bell Integrator — 228th, Ericpol Telecom— 296th, IBA— 301th, Itransition— 374th, SoftClub — 417th, Coherent Solution — 418th, Artezio— 436th, Intetics— 444th.

More than 20 HTP resident-companies export their services to the Russian market. 70 % of total exports accrue to 5 largest exporters. The greatest demand is for application programs as well as application development and deployment software. The lowest demand is for information security software and system software. 12 HTP resident-companies export their services to Germany. The share of 8 largest exporters reaches 90 %, while the share of the largest exporter amounts to 36 %.

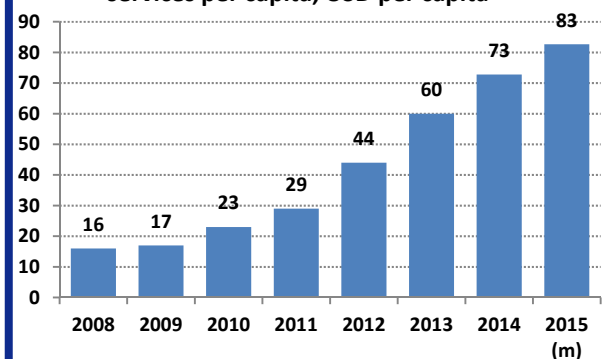
Belarusian IT-services imports are significantly lower than exports. At the end of 2015, imports decreased by 12 % and totaled USD 86 mn. Imports include licensed software (Oracle, Microsoft, Adobe, etc.). The major importers are IT-companies as well as other legal entities and individuals.

Foreign trade in computer services, mn USD



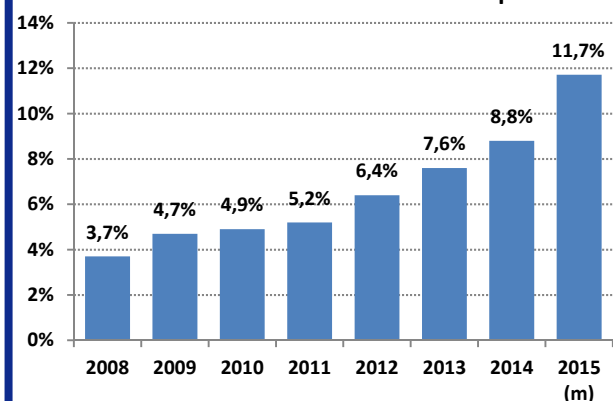
Source: National statistical committee of the Republic of Belarus

Exports of computer and information services per capita, USD per capita



Source: National statistical committee of the Republic of Belarus

The share of computer services exports in the structure of the Belarusian export



Source: National statistical committee of the Republic of Belarus, National Bank of the Republic of Belarus





## IT-industry

### Key players



#### EPAM SYSTEMS

Foreign Private Production and Trading Unitary Enterprise

Founded – 1993

Number of employees –10500 (in Belarus– 6000)

Ownership - foreign capital

Line of business:

- Testing
- IT-outsourcing, IT-services
- Embedded software development
- Software outsourcing
- Software solution development and implementation

Revenue (2015) – USD 905 mn (+ 30%)

Market capitalization – USD 24 bn

**Outsourcing  
company**



СП ЗАО "Международный деловой альянс"

#### Joint venture International business alliance

Closed Joint Stock Company

Founded-1993

Number of employees -2600

Software services:

- Software outsourcing
- Information Systems based on Delphi/Oracle/MS SQL platforms
- 1C:Enterprise platform, IBM platform, Cognos, IBM Lotus platform, IBM platform, FileNet, SAP platform
- Web-design studio
- Software testing
- CREO, Windchill, Arbortext, Mathcad
- ERP II MS Dynamics AX
- Linux on System z
- z/OS and OS/390

Revenue (2012)- USD 85 mn\*\*

**Outsourcing  
company**



WARGAMING.NET  
- E'S BATTLE

#### LLC "Game Stream" (Wargaming.net )

Type – private company

Founded-1998

Number of employees – approximately 2000 (in Belarus– 1600)

Location: United Kingdom, Belarus, Ukraine

Products: video games

Revenue (2015) – USD 590 mn (+34%)

**Product  
company**



The Remote In-Sourcing® Company

#### Intetics Bel

Joint Limited Liability Company

Founded - 1995

Number of employees : - 500

Line of business :

- Testing
- Business process outsourcing
- IT-outsourcing, IT-services
- Software outsourcing

Revenue (2013)- USD 15 mn (+25%)

**Outsourcing  
company**



#### SaM Solutions

Foreign Private Scientific and Production Unitary Enterprise

Founded-1993

Number of employees– 1000

Line of business :

- Testing
- Business process outsourcing
- IT-outsourcing, IT-services
- Embedded software development
- Software outsourcing
- Software solution development and implementation
- Software product development

Revenue (2013) – USD 28 mn (+12%)

**Outsourcing  
company**



SOFTWARE DEVELOPMENT COMPANY

#### Itransition

Closed Joint Stock Company

Founded - 1998

Number of employees– 1400

Line of business :

- Testing
- IT-outsourcing, IT-services
- Embedded software development
- Software outsourcing
- Software solution development and implementation
- Software product development

Revenue (2013) – USD 32 mn (+28%).

**Outsourcing  
company**



## IT-industry

### Forecast

#### NEW STAGE: ATTRACTION OF BIG FOREIGN MARKET PLAYERS

During the time of its existence, Belarusian IT market has significantly influenced the country's economy and, in particular, the distribution of highly qualified specialists. IT market is anticipated to play an increasing role in the future.

Over the introduction period (1991-2005) and growth period (2005-2013) of IT-market, Belarus put an emphasis on the formation of the most favorable conditions for the growth and support of the national companies.

Experts estimate that in the future favorable conditions for the entry of transnational companies on the market will be created in Belarusian IT-industry.

#### ENTRY OF VENTURE COMPANIES

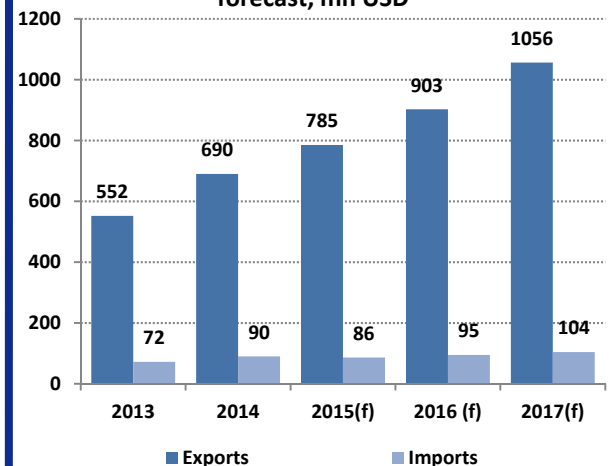
At least 2 large international companies and 2 venture funds, specializing in IT projects from the USA, were expected to enter the Belarusian market in 2013. Despite the fact that these companies are not still registered in Belarus, their entry in the market is expected in the future.

The experts, therefore, agree that the Belarusian IT-industry will maintain a rapid pace of development. Apart from the national companies that are planning to significantly increase their staff, new foreign market players are going to enter the Belarusian market.

#### REDUCTION IN STAFFING DEFICITS

The reduction in staffing deficits is expected, although the experts point out the lack of personnel in the IT-industry. The peak of demographic hole will result in the peak of the staffing deficits in the IT-industry that is projected for 2017. This situation will put upward pressure on wage rates, and staffing deficits will be consequently reduced. At the moment the problem of getting quality IT education hasn't been completely solved.

Computer services exports/imports  
forecast, mn USD



Source: UNITER

#### IT-SERVICES EXPORTS GROWTH AT 20 %

According to the national industry specialists and international organizations' forecast, Belarusian IT-services exports to grow by 15-20 % annually in the coming years, and they can even exceed USD 1 bn in 2017. At the same time, imports will remain rather low. Annual growth rate of imports is anticipated to amount to 5-7 %. Since low levels of export values in other industries are expected, it is IT-industry that is anticipated to become a leading industry with the highest growth rate of exports in 2016. It should be also noted that the further diversification of exports are expected, as the industry potential has not been exhausted yet.



# IT-industry

## Investment in the industry

Neither global nor domestic economic crisis has influenced Belarusian IT-industry which is proved by successful projects and the growing interest of investors in the IT-industry. HTP attracted USD 145,3 mn foreign direct investment (FDI), that is USD 25 mn more than the previous year. While classifying HTP resident-companies by the origin of attracted investments, 62 companies (41 %) were founded by Belarusian investors, 54 companies (35%) were set up by foreign investors, 36 companies (24%) were joint ventures. The main companies that attracted foreign investors were startup companies.

A number of companies have their own development centers: Hynix Semiconductor (South Korea), formerly known as Hyundai Electronics, which is among the five leading manufacturers of RAM in the world; Rakuten (Japan), one of the largest holding in the world, that includes e-commerce services, banking services, credit cards services, electronic books services, media services, etc.; IAC (USA) is one of the world's largest media and internet companies.

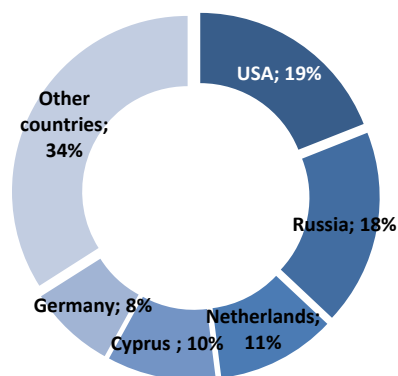
Belarusian IT-services market is characterized by high investment activity. Foreign investors from 17 countries have the shares in Belarusian companies. Top 3 countries investing in Belarus are the USA, Russia and the Netherlands. The investment activity of such European countries as Germany, Austria, France, Belgium and Switzerland should be also noted.

The Belarusian IT-industry is becoming increasingly involved in M&A transactions. The most important M&A transactions are the following: Wargaming acquired Day 1 Studios (USA) and BigWorld (Australia), Playtech acquired Viaden, Rakuten (Japan) bought 100% of Viber Media shares, while the Belarusian mobile apps developer Apalon, registered in the HTP, became a division of InterActiveCorp (USA).

HTC Corp of Taiwan acquired software developer BLRSoft from Abaxia SA (France) in February 2011. The amount of transaction is estimated at USD 13,17 mn. Playtech bought 20 % of Viaden shares in 2012.

In 2011 Sberbank of Russia provided Sberbank-Technology with its own IT-department. Sberbank-Technology opened its office in Minsk in 2012.

Geographical structure of foreign investments in the Belarusian IT-industry in 2012-2013



Source: HTP



The most renowned Belarusian game development company **Wargaming.net** executed a number of major transactions in the game market. The company bought a Chicago-based video game developer **Day 1 Studios** which will be renamed into **Wargaming West** very soon. The amount of transaction is estimated at USD 20 mn. In August 2012, Wargaming.net acquired **BigWorld** (Australia) for USD 45 mn.



## IT-industry

### Legal regulation

The state policy in IT-industry started with the Concept of the state policy in the sphere of informatization (approved by the Decree of the President of the Republic of Belarus of April 6, 1999, №195).

Basic documents regulating the activities in the IT-sphere:

➤The Law of the Republic of Belarus of November 10, 2008 “On Information, Informatization and Protection of Information” gives the definitions of the key terms, determines the principles of the labor relations regulation, determines the subjects of the regulation, the scope and regulates social relations.

➤The Law “On Information, Informatization and Protection of Information” was based on the resolution of the Council of Ministers of the Republic of Belarus of December 26, 2009 №673 “On some measures for the implementation of the Law “On Information, Informatization and Protection of Information”, which approved the Regulation on the use of state information resources.

➤The Decree of the President of the Republic of Belarus of February 1, 2010 № 60 "On the issues to improve making use of the national segment of Internet". The Decree is aimed to ensure adequate protection for the individual, social and national interests within the information sphere, and to create favorable conditions for further development of the national segment of the world wide web system Internet, and to improve quality and availability of the information related to operation of the State administration organs and other organizations, and Internet services, as would be disclosed to the citizens and to the legal persons.

➤Favorable tax conditions are created for IT-industry in Belarus. The Republic of Belarus has concluded double taxation agreements with 65 countries, including the most Western European countries, the Baltic states, the CIS countries, China, South Korea and Japan.

➤Hi-Tech Park was established in 2005 for the purpose of software development in the Republic of Belarus, information and communication technologies as well as other new high technologies development, aimed at increasing the competitiveness of the national economy. HTP provides a wide range of advantages for its resident-companies. HTP resident-companies relations as well as accession rules are regulated by the Decree №12 “On the Park of High Technologies”.

Advantages of HTP resident-companies	
Exempt from the payment:	Profit tax and VAT
	Land tax (under certain conditions)
	Real estate tax
	Offshore duty
	All corporate taxes
	Customs taxes and VAT
	Mandatory sale of foreign currency received from sale of goods, work, services involved in the activities in HTP
Rental rate:	Reduced by 50%
Income tax of HTP resident-employees	At the rate 9%
The tax rate for the profit of foreign legal entities	5 % (by the general rules– 10 - 15%), if more preferential tax regime is not established by the international agreements of the Republic of Belarus (under certain conditions)

Source: HTP



## IT-industry

### International comparison

Belarus is known on the global scene as one of the recognized centers of the offshore programming. The Republic of Belarus is among the leaders in exports of computer and information services per capita. This indicator increased from USD 5 per capita in 2005 to USD 79 per capita in 2015. The indicator of Belarus is more than 3 times higher than that of Russia and Ukraine.

10 Belarusian companies were included in Software Magazine's **Software 500** ranking of the world's largest software and service providers. Companies that were included into this prestigious ranking are the following: IHS (HTP resident-company) is ranked 64th, EPAM Systems— 122th, Bell Integrator — 228th, Ericpol Telecom— 296th, IBA— 301th, Itransition— 374th, SoftClub — 417th, Coherent Solution — 418th, Artezio— 436th, Intetics— 444th.

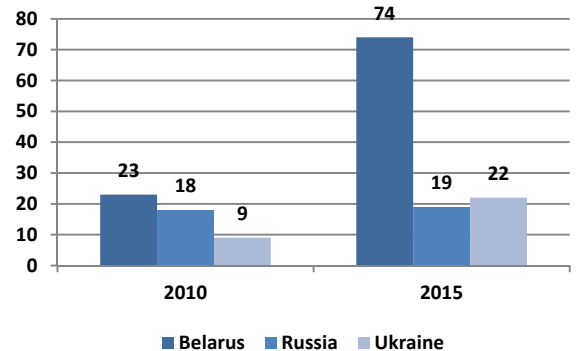
Personnel costs in the Belarusian IT-industry are in general 5-36 % lower than in many outsourcing centers of Central and Eastern Europe and comparable with many Asian countries. The salary of Belarusian IT-specialist amounts to USD 9-22 per hour, which is considerably lower than in other leading countries in the region. In that context, the emigration problem arises, when highly qualified programmers move from Belarus to other countries with a higher salaries.

The salary rates corresponding to the countries of Central and Eastern Europe are applicable to Belarus. Thus, it can be said that rates of IT-outsourcing in Belarus are much lower than in Scandinavian countries and USA, but they are close to the rates of such countries as India and China.

The number of IT-specialist working in HTP amounted to 24 037 at the end of 2015. The share of IT-specialists per capita in Belarus is much higher than in other countries of Central and Eastern Europe.

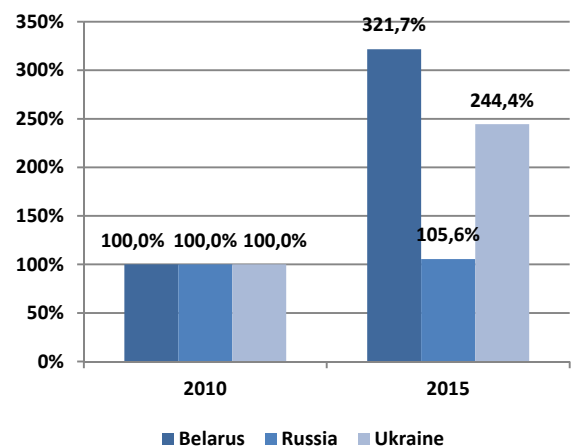
In the pre-crisis time, growth rates of software exports reached the level of more than 150 % in the countries of Eastern Europe, including Belarus. But there was practically no increase in 2009. Following the global economic crisis, the industry is currently in the recovery phase. The highest recovery rates are in Belarus, where growth rates of software exports increased by 321,7 % in 2015 comparing with the level of 2010.

**Exports of computer and information services per capita, USD per capita**



Source: Balances of payments of Belarus, Russia and Ukraine; Hi-Tech Park

**Growth rate of exports (2010 = 100%), %**



Source: Balances of payments of Belarus, Russia and Ukraine; Hi-Tech Park



## IT-industry

### International comparison

According to the Information and Communications Technology (ICT) Development Index (IDI), Belarus is ranked 36<sup>th</sup> internationally (“Measuring the Information Society Report”, International Telecommunication Union (ITU)). Belarus has been a leader in the region for the second consecutive year. The Republic of Belarus has moved 14 positions up in the ranking, and the country’s indicator is 1,88 points higher than in the previous year. Since 2010, Belarus is among 10 the most dynamically developing countries in the field of ICT. But its growth potential has not been exhausted yet. Thus, the Belarusian government has adopted an ICT development program for the period of 2016-2020, and are planning to implement major projects valued around USD 1 bn.

This indicator measures affordability of access in price terms, the level of development of fixed and mobile telephone lines and fixed broadband Internet access services. There are also 8 European countries (Denmark, Iceland, the United Kingdom, Sweden, Luxemburg, Switzerland, the Netherlands and Norwegia) and 1 Asian country (Hong Kong, China) among the top 10 ranking 2015.

IPB index is used to monitor the affordability of ICT services. ITU developed ICT services price basket (IPB), a unique instrument for benchmarking on a global scale, which provides essential information about cost and affordability of fixed, mobile and fixed broadband services. According to this indicator, Belarus is among the leading countries, being followed only by Russia at the CIS.

Nevertheless, according to the Internet freedom ranking compiled by international human rights watchdog organization Freedomhouse, Belarus belongs to not free countries. Belarus has 64 points (the more points, the worse position) and holds the position between Myanmar and Gambia. Human rights advocates have found barriers to the Internet access in Belarus, as well as censorship (limited access to political information, in particular) and violations of user rights. In 2014 the country’s position is worse compared with the previous year.

Russia (62 points), Kazakhstan (61 points) are ranked higher than Belarus, but they still belong to not free countries, as well as Azerbaijan, Ukraine and Kyrgyzstan, which are characterized as partly free countries. There are no barriers to the Internet access in Armenia and Georgia. Uzbekistan, Belarusian CIS counterpart, is ranked at the bottom (78 points).

	Global rating IDI (2015), position	Global rating IDI (2010), position	IDI 2015	IDI 2010
Russia	45	46	6,91	5,57
Belarus	36	50	7,18	5,30
Moldova	66	74	5,81	4,28
Ukraine	79	69	5,23	4,41
Kazakhstan	58	62	6,20	4,81
Lithuania	40	39	7,08	6,02
Latvia	37	34	7,16	6,22
Estonia	20	25	8,05	6,70
Poland	44	32	6,91	6,38

Source: The International Telecommunication Union

	IPB 2014	IPB 2012
Russia	0,68	2
Belarus	1,57	1,4
Moldova	5,54	5,2
Ukraine	1,15	3,5
Kazakhstan	1,12	1
Estonia	1,43	0,7
Poland	1,12	2

Source: The International Telecommunication Union



## IT-industry

### SWOT-analysis

Strengths	Weaknesses and limitations
<ul style="list-style-type: none"> <li>✓ Goodwill of Belarusian IT-companies</li> <li>✓ Geographical and cultural closeness of Belarus to Europe (nearshoring)</li> <li>✓ Developed infrastructure</li> <li>✓ High level of education</li> <li>✓ Highly qualified personnel</li> <li>✓ Low costs in the sector</li> <li>✓ Significant tax benefits (their stability is guaranteed by Hi-Tech Park, established in 2005)</li> </ul>	<ul style="list-style-type: none"> <li>✓ Lack of skilled labour force in this sphere (there is no possibility to cover the costs of the major projects through own personnel)</li> <li>✓ Narrow national market</li> <li>✓ Predominance of outsourcing model. There is very few product companies, while company's own products and developments are important for investors</li> <li>✓ Developers and programmers with bad command of English</li> <li>✓ Insufficient level of management competence</li> <li>✓ Risk of limitations of tax benefits</li> </ul>
Opportunities	
<ul style="list-style-type: none"> <li>✓ Establishment of training and education centers</li> <li>✓ Development of the modern ICT infrastructure (there is only 1 data center of Beltelecom in Belarus). Belarus has a significant potential for the development of the IT-related services industry</li> <li>✓ Construction of the modern business centers, satisfying the needs of IT-companies (floor space: more than 1000 sq km, rental rates: EUR 10-15)</li> <li>✓ Opportunities for retraining of the significant number of specialists with technical education to meet the needs of IT-industry</li> </ul>	



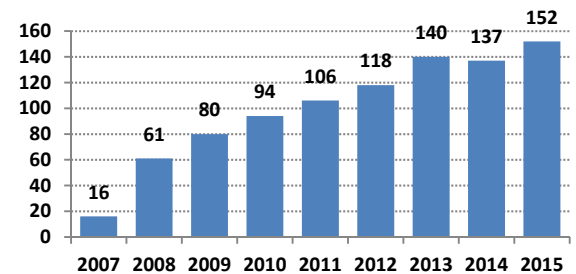
# IT-industry

## Milestones in the industry 2015

- 5 HTP resident-companies were included in the 100 world's best outsourcing companies list *The 2016 Global Outsourcing 100*.
- 10 HTP resident-companies improved their positions in the ranking *Software 500*, one of the most influential magazines of the world high tech industry.
- Business incubator was created in HTP in order to support new start-up companies that develop their own products. During the next year start-up participants will have an access to all incubation facilities: the office space from 44,5 to 116 sq m at a reduced price, the pool of experienced business experts, mentorship and support in attracting investment. HTP intends to cooperate with venture capital funds, and their pool has been already formed. Belarusian-Korean info center has been also set up on the basis of the incubator.
- Tax benefits for HTP resident-companies are still committed. In February 2016, the Belarusian government proposed amendments to the Decree of the President № 12 "On HTP" having increased by threefold the HTP resident-companies payments to the National Social Security Fund, as well as income tax – from 9 % to 10 %. Consequently, business costs would rise by 15 % on average. Nevertheless, the government decided to preserve the benefits for HTP resident-companies, and this decision was influenced by some results of HTP performance. It should be noted that HTP resident-companies budget payments amounted to BYR 748,8 bn or USD 47,2 mn of income tax.
- EPAM's rapid growth. Company's revenue has been increasing on average by 30 % annually for several years and it amounted to USD 905 mn at the end of 2015. Company's market capitalization constituted USD 4 bn and increased almost sevenfold compared to 2012. It should be added that the company was valued at USD 12 per share, when it entered the IPO market. Company's employees own 6,34 % of its shares, institutional investors hold 90,1 % of the shares. Fortune magazine included EPAM into a top 100 list of fastest-growing companies in 2015.
- **Success of Belarusian start-up movement (PandaDoc, SplitMetrics).** The Belarusian company, that provides complex workflow solution, raised USD 5 mn in a funding round in July. It's a record sum that Belarusian start-upers has ever attracted. The service generated USD 1 mn annual income during the first six months of work.

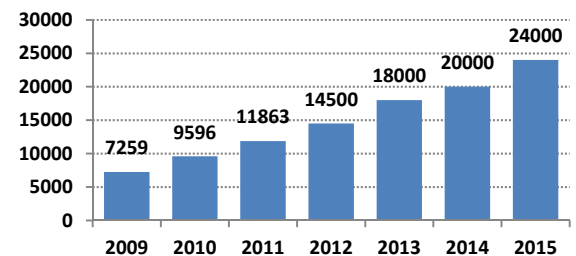
• **Victories of Belarusians in prestigious international competitions.** Start-up Kinomo that presented 3D-display for air projection became a winner of the British start-up competition Pitch to Rich 2015. They won marketing campaign of GBP 150 thou and business mentorship provided by the competition organizers from Virgin Group for a year.

Number of HTP resident-companies



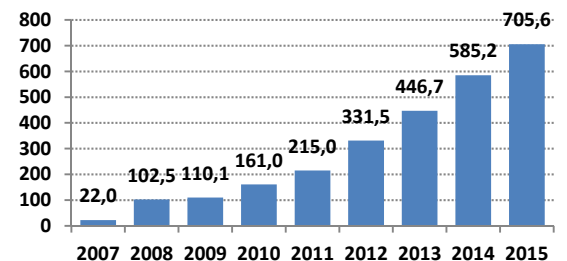
Source: HTP

Number of employees



Source: HTP

Exports, mn USD



Source: HTP





## IT-industry

### Statistical Annex

#### Key economic indicators

Key economic indicators	Unit of measurement	2007	2008	2009	2010	2011	2012	2013
Nominal GDP	tn BYR	97.165	129.791	137.442	164.476	297.158	530.356	636.784
Nominal GDP*	Bn USD	45.2	60.6	49.1	54.9	50.9	63.4	71.5
Real GDP growth	% y/y	8.6	10.2	0.2	7.7	5.5	1.7	0.9
Manufacturing	% y/y	8.6	11.3	-3.1	11.7	9.1	5.8	-4.8
Agriculture	% y/y	4.1	8.9	1.0	2.5	6.6	6.6	-4.0
CPI	% y/y c/п	8.4	14.8	13.0	7.7	52.3	67.5	18.5
CPI	% y/y κ/п	12.1	13.3	10.1	9.9	108.7	21.8	16.5
IPPI	% y/y c/п	16.3	14.8	15.0	13.5	69.2	90.5	14.0
IPPI	% y/y κ/п	22.2	15.4	11.3	18.9	149.6	20.6	10.7
Exports (goods/services, USD)	% y/y	24.5	34.9	-32.9	20.5	58.8	11.4	-15.5
Imports (goods/services, USD)	% y/y	28.7	37.8	-26.8	23.0	29.7	2.3	-6.7
Current account	mn USD	-3013	-4959	-6133	-8280	-5053	-1688	--
Current account*	% GDP	-6.7	-8.2	-12.5	-15.1	-9.9	-2.7	--
FDI (net)	mn USD	1792	2157	1774	1343	3877	1308	--
International reserves	mn USD κ/п	4182	3061	5653	5031	7916	8095	6651
Consolidated budget balance	% GDP	0.4	1.4	-0.7	-2.6	2.1	0.5	0.2
Internal public debt	% GDP κ/п	6.3	6.6	5.7	5.6	10.9	9.3	10.7
Total external debt*	% GDP κ/п	27.6	25.0	45.0	51.7	66.8	53.5	--
Monetary base	% y/y κ/п	38.4	11.7	-11.5	49.5	84.1	61.6	13.4
Exchange rate (NBB, official)**	BYR/USD c/п	2146	2136	2793	2978	4623	8336	8876
Exchange rate (NBB, official)**	BYR/USD κ/п	2150	2200	2863	3000	8350	8570	9510
Exchange rate (NBB, official)**	BYR/EUR c/п	2937	3135	3885	3950	6432	10713	11782
Exchange rate (NBB, official)**	BYR/EUR κ/п	3167	3077	4106	3973	10800	11340	13080

Source: IPM Research Center



## IT-industry

### Statistical Annex

#### Key indicators of the financial and economic activities and social development of HTP resident-companies, 2015

The volume of goods and services produced and sold	USD 793 mn
Software and services exports	USD 705,6 mn
The share of exports in the total production of HTP	91,5%
Software and services imports	NA
Foreign direct investment, net inflows (excluding debt to direct investor for goods, works and services)	USD 145,3 mn
Number of employees on January 1, 2016	24 037
New jobs created	5 000
Average monthly salary of employees in 2015	1 575

Source: HTP

#### Indicative IT-outsourcing rates in the world, USD

	India	Russia	Central and Eastern European countries	Scandinavian countries	China	USA	Latin America
Program development	20-32	37	22	85	25	75	36
Testing and quality control	15-25	–	18	65	18	50	26
Web-development	18-30	32	20	70	20	75	30
Mobile applications development	20-25	–	20	85	25	80	30

Source: Central and Eastern European Outsourcing Association

#### Key work indicators of HTP resident-companies

	2009	2010	2011	2012	2013	2014
Number of resident-companies	78	92	102	118	128	136
Average number of employees during the year	6222	8412	10481	12976	16006	18753
Revenue from the sale of goods, products, works and services, mn USD	149,0	203,7	249,6	371,8	531,6	665,7
Taxes and levies included in revenue from the sale of goods, products, works and services, mn USD	0,3	0,3	0,2	0,1		
The cost of goods, products, works and services sold, mn USD	101,9	135,4	178,7	278,8	392,1	484,4
Profit, loss (-) from the sale of goods, products, works, services, mn USD	46,6	68,0	70,8	92,8	139,0	181,3
Profit, loss (-) from operating income and expenses, mn USD	0,8	1,1	14,2			
Profit, loss (-) from non-sale income and expenses, mn USD	-9,1	-15,5	30,1			
Profit, loss (-) before tax, mn USD	38,3	53,6	115,0	86,5	116,5	147,9
Taxes and levies, other expenses and profit payments, mn USD	1,1	2,4	1,5	1,0	0,6	0,4
Net profit, loss (-), mn USD	36,7	51,2	113,5	85,5	115,9	147,5
Number of loss-making companies	8	9	4	14		

Source: National statistical committee of the Republic of Belarus



## IT-industry

### Statistical Annex

#### HTP resident-companies services exports by country

	2009	2010	2011	2012	2013	2014
USA	\$45 380 400	\$74 324 700	\$101 263 600	146 242,8	178482,1	229053,2
Russia	\$23 571 100	\$26 938 500	\$27 080 200	40 770,5	63115,9	81023,3
Germany	\$13 569 100	\$15 955 700	\$19 143 400	23 092,3	27429,6	30803,3
United Kingdom	\$5 774 000	\$14 957 900	\$18 221 000	21 341,7	26058,8	42081,6
Cyprus	\$2 406 400	\$6 689 200	\$7 887 600	43 845,9	86812,5	101608,1
Czech Republic	\$3 349 400	\$4 811 300	\$6 804 600	6 774,0	10206,5	9059,8
Netherlands	\$1 664 700	\$2 206 100	\$2 985 400	2 445,2	4031,1	8600,1
France	\$1 669 800	\$1 553 900	\$2 905 100	3 402,6	3241,8	1174,0
Denmark	\$369 400	\$629 700	\$2 838 100	5 249,7	4057,8	1524,5
Finland	\$598 100	\$895 700	\$2 389 300	4 686,8	9881,0	10348,9
Poland			\$2 342 600	3 291,4	4177,1	3575,5
Israel	\$68 700	\$1 546 100	\$2 093 100	2 544,9	5123,1	7023,4
Luxemburg	\$528 900	\$123 100	\$1 874 300	3 076,9	3515,3	6709,4
Singapore	\$1 846 600	\$1 758 700	\$1 810 000	1 822,4		
Sweden	\$1 153 500	\$748 900	\$1 633 400	1 560,6	2490,3	4332,8
Bermuda	\$1 253 800	\$902 600	\$1 346 200	1 576,9		
Ireland	\$413 200	\$550 500	\$1 336 600	851,6	550,0	734,2
Latvia	\$200 000	\$71 800	\$1 175 800	554,2	1222,8	1930,3
China	\$850 300	\$833 400	\$1 103 200	467,7		
Switzerland	\$301 500	\$486 800	\$1 072 500	1 654,6	2222,3	5512,7
Kazakhstan	\$1 920 900	\$761 900	\$966 900	1 817,8	83,4	633,6
Ukraine	\$91 400	\$740 800	\$848 600	848,1		
Seychelles	\$205 500	\$424 500	\$837 600	86,3		
British Virgin Islands		\$50 700	\$131 200	694,1	619,7	1818,0
Belgium	\$109 200	\$342 200	\$666 800	762,8	1050,2	1262,1
Azerbaijan	\$231 800	\$473 600	\$586 700	1 178,1	1495,3	1324,7
Canada	\$269 300	\$112 700	\$345 900	488,0	1779,2	2954,5
Korea, Rep.			\$282 200			3271,2
Lithuania	\$114 600	\$279 000	\$260 500	451,0	659,0	1790,2
Australia	\$215 800	\$245 200	\$202 700	356,7		
Belize					161,5	1230,2



## IT-industry

### Statistical Annex

*Rate is the cost paid to a certain technology specialist for the one working hour*

	2007	2008	2009	2010	2011	2012	2013	2015
SAP							10,5	
Ruby			4,1	6,8	7,4	8,0	10,2	10,4
Python			6,8	6,7	6,1	9,4	9,7	10,3
ObjectiveC/ MacOS/ Iphone				4,0	8,5	8,7	9,1	9,7
1C			4,7	4,7	3,7	4,8	9,1	10,1
C/C++	5,4	5,7	6,0	6,6	8,0	8,5	8,5	11,4
Java	6,5	7,4	5,7	6,8	6,8	8,2	8,5	9,7
.NET	6,3	6,8	5,7	6,3	7,4	8,4	8,5	
PHP						7,4	8,5	11,4
Perl		8,5	6,5				8,3	
Flash/ Flex/ Action Script	5,0	7,4	5,1	8,0	5,7	11,6	8,2	
Oracle		8,2	4,4	4,8	4,8	8,4	8,2	7,8
BI							8,0	
Android				8,4	9,1	8,5	7,4	11,4
HTML/ CSS/ JavaScript	2,7	4,1	4,2	5,7	6,3	6,8	6,8	9,9
ABAP/4		6,3	4,3		8,2	6,8	6,3	
Delphi	4,7	6,8	4,5	4,1	5,1	6,5	5,7	
MySQL				8,0	5,0			
VB Script / QTP				5,7	5,7			
Silverlight					10,2			

Source: dev.by, UNITER

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UNITER



220114 Belarus, Minsk, 117A Nezavisimosti avenue 12 floor (Aleksandrov Passage Business Center)

Office +375 17 385 24 65, Fax +375 17 385 24 64, [uniter@uniter.by](mailto:uniter@uniter.by), [www.uniter.by](http://www.uniter.by)

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