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## INTENSIFICATION OF THE REPUBLIC OF BELARUS PARTICIPATION IN INTERNATIONAL TRADE GLOBAL PROCESSES IN IT SERVICES

*The article studies the structure of the information technologies world market, characterizes the state of foreign trade of computer, telecommunication and information services of the Republic of Belarus for the 2013-2020, reveals the dynamics of exports of the High Technologies Park (HTP) for the study period. Based on the analysis of the world market, the demand for IT services has been established, directions have been formulated and the potential of the Republic of Belarus to intensify its participation in global processes of international trade in IT services has been determined.*

**Keywords:** computer, telecommunication and information services; Republic of Belarus; world market; international trade; export; import; High-Tech Park (HTP); potential; participation; activation.

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## АКТИВИЗАЦИЯ УЧАСТИЯ РЕСПУБЛИКИ БЕЛАРУСЬ В ГЛОБАЛЬНЫХ ПРОЦЕССАХ МЕЖДУНАРОДНОЙ ТОРГОВЛИ ИТ-УСЛУГАМИ

*В статье исследована структура мирового рынка информационных технологий, охарактеризовано состояние внешней торговли компьютерных, телекоммуникационных и информационных услуг Республики Беларусь за период 2013–2020 гг., выявлена динамика экспорта Парка высоких технологий (ПВТ) за исследуемый период. На основе анализа мирового рынка установлен спрос на ИТ-услуги, сформулированы направления и определен потенциал Республики Беларусь по активизации ее участия в глобальных процессах международной торговли ИТ-услугами.*

**Ключевые слова:** компьютерные, телекоммуникационные и информационные услуги; Республика Беларусь; мировой рынок; международная торговля; экспорт; импорт; Парк высоких технологий (ПВТ); потенциал; участие; активизация.

In modern world, the services sector is a driving force for economic development, as it contributes to an increase in gross domestic product, trade, employment growth and economic growth through its relationship with production and other services. Many countries focus their economies on the development of this sector [1]. In the service sector of the leading countries, more than 60 % of GDP is produced, employment reaches or exceeds half of the workforce [2].

Currently, there is a rapid development of the information services world market, which are the most dynamically developing sector in the commodity structure of international trade in information technology, ahead of software and computer equipment.

In accordance with the Law of the Republic of Belarus dated 10.11.2008 № 455-Z (as amended by the Laws of the Republic of Belarus № 11-Z of 24.05.2021) «On Information, Informatization and Information Protection», an information service is an activity for the search, receipt, transfer, collection, processing, accumulation, storage, dissemination and (or) provision of information, as well as information protection [3].

There are alternative approaches to the classification of IT services. For example, according to the methodological approach of the British Department for Digital, Culture, Media & Sport (DCMS), creative or cultural industries are distinguished. There are different approaches to defining the creative industry. In the most general form, this industry includes the production of computer games and software, as well as activities related to computer programming and the provision of consulting services in the field of computer technology [4].

In the statistical data of the Republic of Belarus, IT services are classified as «computer, telecommunication and information services». Telecommunication services include: broadcasting and transmitting sounds, images, data or other information; business network services; organizing teleconferencing; support services. Computer services include: the sale of custom and non-custom software and licenses to use them; consulting and installation of hardware and software; services for data recovery, placement of web pages on the server; provision of application programs, etc.

Some experts exclude software development services from IT services. They refer to this area of activity as a separate category of products, a separate market segment [5].

It should be noted that the modern world market of information technology is characterized by a certain dynamic of its segments, which is presented in fig. 1.

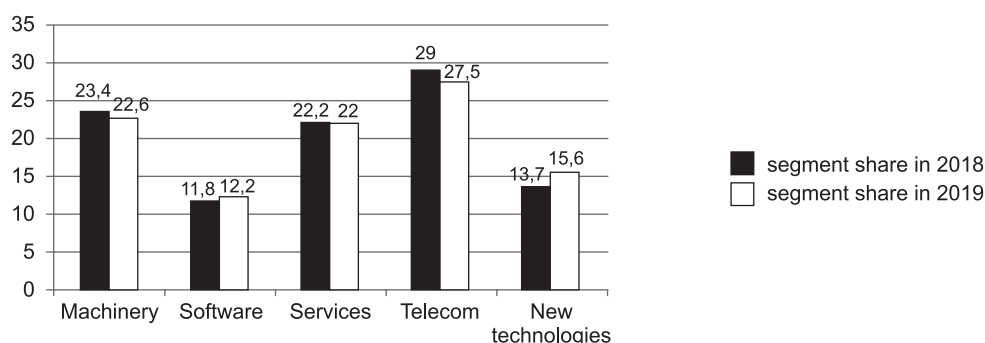


Fig. 1. Segments of the world market of information technologies 2018–2019, %

Source: compiled by the authors on the basis of statistical data [6].

Based on the data of the presented fig. 1, it can be argued that the largest shares of the information technology market are in the segments of telecom, equipment and IT services. For the period 2018–2019, the growth was: the software segment (by 0.4 %) and the segment of new technologies (by 1.9 %). A decrease in shares was observed in the segment of equipment (by 0.8 %), IT services (by 0.2 %) and telecom (by 1.5 %).

The dynamics of global IT expenses by various segments for the period 2019–2020 is presented in the table.

Global IT Spending by Segment 2019–2020

Segment	Expenses 2019, billion USD	Growth rate 2019, %	Expenses 2020, billion USD	Growth rate 2020, %
1	2	3	4	5
Data Centers	211,633	0,7	191,122	–9,7
Corporate Software	458,133	8,8	426,255	–6,9
Machinery	698,086	–2,2	589,879	–15,5
IT services	1031,576	3,6	952,461	–7,7

1	2	3	4	5
Communication services	1357,432	-1,6	1296,627	-4,5
IT total	3756,862	1,0	3456,344	-8,0

Source: compiled by the authors based on [7].

Having analyzed the presented table, the following conclusions can be drawn:

- the largest volume of global spending in 2020 accounted for the segment of communication services and IT services and amounted to 3456.344 billion dollars. US dollars and 952.461 billion US dollars, respectively;
- the smallest amount of global spending in 2020 was directed to the data center segment in the amount of \$ 191.122 billion USD;
- global IT spending totaled \$ 3,456.344 billion, down 8 % from 2019;
- for all considered segments in 2020, there was a decrease in volume, which is largely due to the COVID-19 coronavirus pandemic;
- the highest rate of change in 2020 relative to 2019 belongs to the equipment segment. The rate of change in this segment in 2020 was (-) 15.5 %.

Figure 2 shows the structure of exports of telecom, computer and information services for 2019, divided depending on the degree of development of the economy.

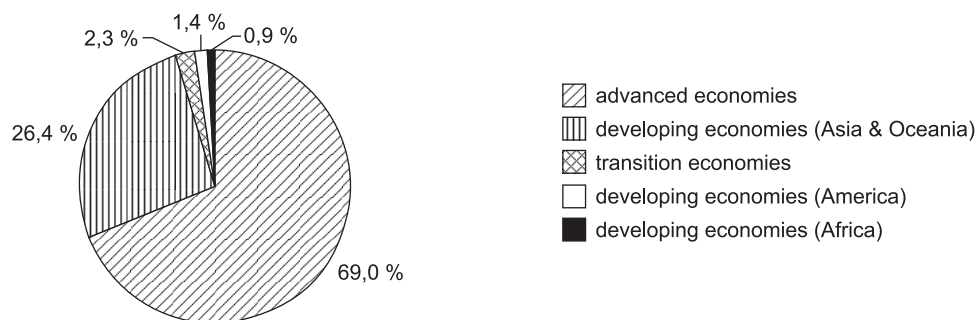


Fig. 2. Export of telecom, computer and information services for 2019, %

Source: compiled by the authors on the basis of statistical data [8].

Figure 2 shows that in 2019 the largest share of exports of telecom, computer and information services belongs to countries with developed economies (69 %). The share of exports of Asia and Oceania was 26.4 %. While the share of exports of countries with transition economies was only 2.3 %. The lowest share of exports is typical for African countries with developing economies (0.9 %). It should be noted that it remains difficult for developing countries to compete in high-tech services markets, with the exception of some Asian countries. North America in 2019 was the largest region in the global IT services market, accounting for 32 % of the global IT services market.

The Republic of Belarus, being an inseparable integral part of the world economy, has a perfect information industry for the creation of information technologies and, accordingly, the export potential of IT services. At the macro level, the necessary measures have been taken to develop the digital economy [9]. In particular, the Decree of the President of the Republic of Belarus of December 21, 2017 № 8 «On the Development of the Digital Economy» [10], the main goals of which are to attract global IT companies, maintain a unique busi-

ness climate for representatives of the sphere, create a comfortable environment for people's lives in the face of rapid growth of technologies. Also, in order to ensure the introduction of information and communication and advanced production technologies in the sectors of the national economy and the sphere of life, the State Program «Digital Development of Belarus» for 2021–2025 [11] etc. was approved.

In accordance with the Strategy for the Development of Informatization of the Republic of Belarus, the digital development of our country involves: creating conditions for attracting world IT companies; production of competitive IT products; ensuring investments in the future (IT personnel and education), etc [12].

For Belarus, the IT industry is of strategic importance, since the development of this sector of the economy contributes to the acquisition by the country of the status of one of the most dynamically developing IT countries in the world market and the balance of foreign trade turnover under the article «Computer, telecommunication and information services» throughout 2013–2020 is characterized by an upward trend and has a positive value.

The change in the volume of exports of computer, telecommunication and information services of Belarus for the period 2013–2020 is presented in fig. 3.

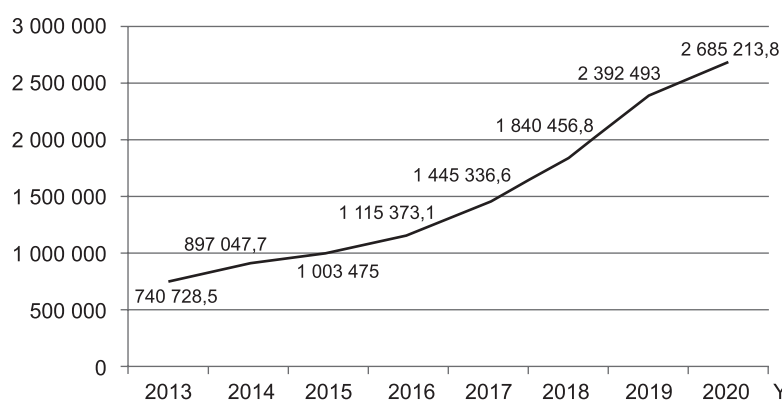


Fig. 3. Dynamics of export volumes of computer, telecommunication and information services of the Republic of Belarus for the period 2013–2020, thousand USD

Source: compiled by the authors on the basis of statistical data [13].

The above graphic material confirms the stable and annual growth in the volume of exports of IT services of the Republic of Belarus for the study period.

At the same time for all segments considered in 2020 there was a decrease volume, which is largely due to the COVID-19 coronavirus pandemic. The highest rate of change in 2020 relative to 2019 refers to the hardware segment.

In accordance with the integrated approach, it seems advisable to compare the dynamics of exports and imports of IT services of the Republic of Belarus for the period 2013–2020, which is reflected in fig. 4.

On the basis of the presented figure, it can be concluded that the volume of imports of IT services also tends to grow, but at a significantly slow pace, which is a rather positive trend. Thus, in 2020, the volume of imports of IT services of the Republic of Belarus amounted to 423,094.9 thousand dollars. Export volume — 2685213.8 thousand dollars. The balance for this type of services for the study period has a positive value and in 2020 its indicator amounted to 2262118.9 thousand dollars against 546635.0 thousand dollars. In 2013, the growth rate is set at 413.8 %, which proves the strategic importance of this industry.

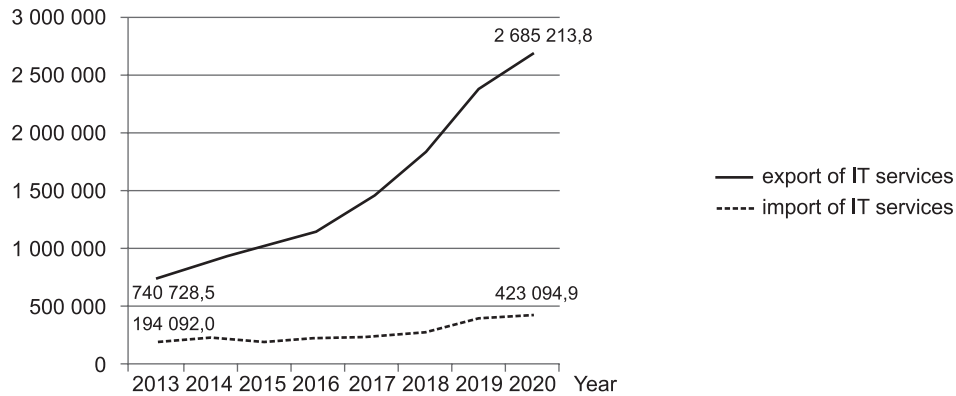


Fig. 4. Dynamics of export and import of IT services of the Republic of Belarus for the period 2013–2020, thousand USD

Source: compiled by the authors on the basis of statistical data [13].

Exports of the High-Tech Park (HTP) in 2020 exceeded \$2.7 billion, which marks high importance of HTP in developing Belarussian IT sector. The United States and provided more than 20 % of all exports of services of Belarus. More than 90 % of the software produced in HTP is exported: 49.1 % — to Europe, 44 % — to the USA and Canada, 4.1 % — to Russia and other CIS countries. Belarussian developers provide IT services to the largest corporations and organizations in the world (Samsung, HTC, London Stock Exchange, World Bank, Microsoft, Coca-Cola, Toyota, Google, British Petroleum, etc.) [14].

The number of HTP resident organizations of the Republic of Belarus and the change in this number for 2016–2020 is presented in fig. 5.

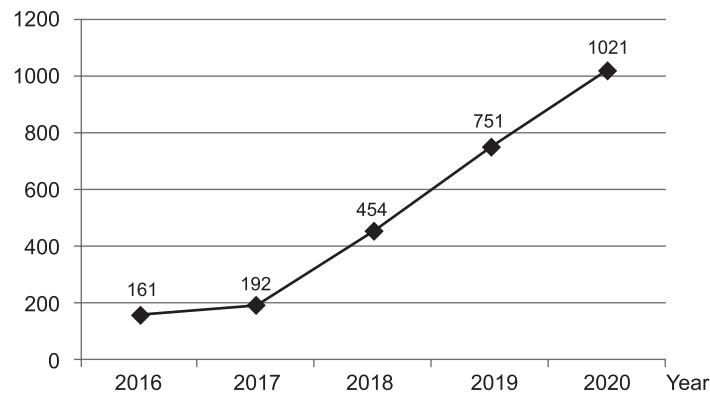


Fig. 5. Number of companies — HTP residents

Source: compiled by the authors on the basis of statistical data [15].

The data of the presented figure indicate that the number of HTP residents has been rapidly increasing in recent years. At the end of 2020, 1021 organizations are residents of the HTP. Among them are the largest residents of the Park — EPAM Systems, Itransition, iTechArt Group, ISsoft, IBA Group, Game Stream and others.

Exports of the High-Tech Park comprises more than 30 % of the total Belarusian export of services. The HTP foreign trade balance in 2020 was plus \$2,4 bln. Annually Hi-Tech Park welcomes dozens of foreign delegations — from high-level country officials to representatives of business and major corporations.

Figure 6 shows the dynamics of HTP exports in the period from 2013 to 2020.

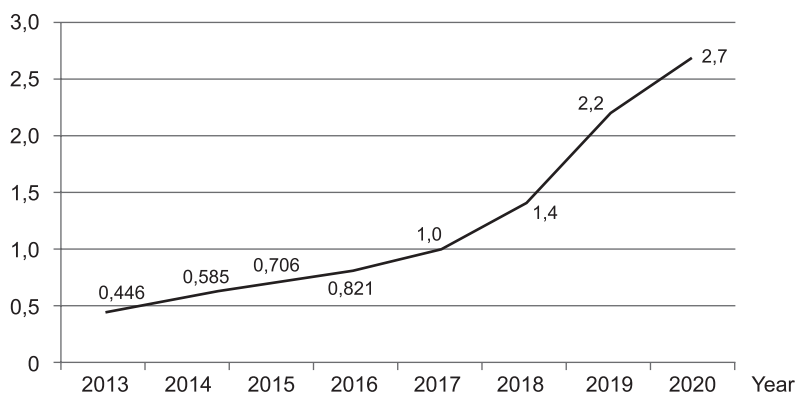


Fig. 6. Dynamics of HTP exports for the period 2013–2020, billion USD

Source: compiled by the authors on the basis of statistical data [15].

From the presented figure, one can see the rapid positive dynamics of exports of HTP products: in 2017. HTP exports amounted to \$1.0 billion USD, in 2019 — \$2.2 billion. In 2020, this figure reached an amount equal to \$ 2.7 billion USD.

The study allows us to conclude that the Republic of Belarus has the status of one of the most dynamically developing and export-oriented IT countries in the European region. The export of IT services in recent years has demonstrated steady growth rates of export earnings and is a progressively developing form of participation of the Republic of Belarus in international trade.

Belarus has a fairly strong scientific base, highly qualified personnel and high-tech companies that develop and bring to market services and platform solutions based on digital technologies.

It should be noted that the export of IT services of the Republic of Belarus has good prospects for further development. The country has created quite favorable conditions related to state support, the provision of tax incentives, etc. In accordance with the National Strategy for Sustainable Socio-Economic Development of the Republic of Belarus for the period up to 2030, the main goal of the development of IT services is to meet the growing information and communication needs of citizens, business and the state. To achieve this goal at the macro level, it is planned to solve such problems as:

- formation of domestic demand for IT services through the widespread introduction of information and communication technologies in the production and social spheres, public administration, defense;
- expansion of exports of services in the field of information technology and software products;
- promoting the development of quantum computing, neural networks, intelligent design, the Internet of Things, 3D printing, processing large data arrays, augmented and virtual reality technologies;

- improvement of mechanisms to support the development of IT services (business incubators, venture financing, public-private partnership, etc.);
- promoting the development of international cooperation through the integration of the country's electronic services into the world market;

Belarus' entry into the top thirty leading countries of the world in the ranking of states for IT development, etc. [16].

The results of the study allow us to assert that the export of IT services is a source of foreign exchange earnings and is one of the most rapidly developing forms of participation of the Republic of Belarus in international trade. The IT sector of the country is quite developed and plays an important role in the country's economy.

Analysis of the global market confirms the existing high demand for IT services, which will grow due to the increasing diversity and complexity of the IT systems used. The strategic direction of development is cloud technologies, big data analytics, integration of mobile devices and social networks into the corporate environment.

The Republic of Belarus, being an inseparable integral part of the world economy, has a significant number of qualified personnel in the field of information technologies and has a perfect information industry for their creation, which will ensure the intensification of the country's participation in the global processes of international trade in IT services.

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## COMPETITIVE ADVANTAGES OF THE REPUBLIC OF BELARUS IN BILATERAL TRADE IN SERVICES WITH THE RUSSIAN FEDERATION

*The effect of external shocks, the slowdown in the global economy and the growth of global protectionism, including in the form of unilateral government restrictions, led to a decrease in the growth of world trade in services. At the same time, unfavorable external conditions create additional opportunities and form competitive advantages within the framework of bilateral relations in the service market.*

*Results of the article: based on the analysis of bilateral trade in services of the Republic of Belarus and the Russian Federation, comparative advantages by types of services are determined; export growth directions, prospects for the development of the country in bilateral trade in services with the Russian Federation are identified.*

**Keywords:** competitive advantages; comparative advantages; services market; bilateral trade in services; export and import of services.