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Analysis of the Construction Market in Russia and Abroad in Order to Curb the Growth of Construction Costs and Ensure the Competitiveness of Enterprises by Increasing the Efficiency of the Cost Accounting and Control System

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ABSTRACT

The purpose of the study is to analyze the Russian construction market and the prospects for its development in the context of large contracting companies, as well as to determine contractor competitiveness and the place of the largest domestic construction companies in the world ranking. Comparison, analysis, as well as graphical, tabular methods of data presentation and visualization were used as research methods. The paper presents an analysis and characteristics of the Russian and world construction market, its dynamics, structure and key players. The main trends and drivers of the construction industry are described. The volume of construction is growing every year, despite the economic and political crises of past five years. This fact indicates a high demand for construction products. The article considers the main players in the Russian and foreign markets. The leading positions in terms of construction volumes are occupied by such countries as China, the USA, Japan and the EU, while the Russian Federation lags behind in terms of construction production volume. Only four construction companies in the world have a turnover of more than \$ 100 billion, while maintaining a significant lead over other players. Whereas the development of the global construction market is associated with population dynamics, an influx of investments in the Asian region is expected, which in turn will contribute to the development of technologies and the introduction of innovations in the field of construction management. The study revealed a direct correlation and relationship between the competitiveness of construction companies and internationalization. Despite the increasing interest of Russian developers in foreign projects, at the moment the expansion trend of Russian construction companies is just beginning to take shape. It is concluded that in order to increase the competitiveness of Russian construction companies in the world market, the efficiency of project management and cost optimization, it is necessary to introduce an effective system of projects cost accounting and control.

Keywords: analysis of the construction market; Russian construction market; global construction market; transnational construction companies; competitiveness of construction companies; cost accounting and control system

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INTRODUCTION

Despite the active development of the global construction industry, there are both external and internal factors limiting it. Mainly due to increased budget investments and government support, the construction market survived the 2020 pandemic while maintaining key indicators at an acceptable level. However, its consequences and crisis, although with a slight delay, were reflected in the indicators in 2021 [1, 2]. The delayed reaction is due to the fact that construction companies usually have stocks of materials; Thus, rising prices for resources, fluctuations in exchange rates and increasing fuel costs will affect the cost of construction products only in the long term. In this regard, studying the state and patterns that have developed in this area, as well as the reasons for the decline in growth rates, is an urgent task to improve the efficiency of the cost accounting and control system.

Published studies widely cover the development of national construction markets abroad, while Russia's place in global construction production is not fully reflected in the scientific literature, which determines relevance of the research.

In this study, the authors identified and solved the following problems:

1. Analysis of the dynamics and structure of the Russian construction market, as well as the reaction of its participants to the political and economic crises of recent years.
2. Study of the global construction market and its key players, description of modern directions of its development.
3. Determining the place in rank of companies — market leaders in the global construction industry.
4. Finding ways to improve the efficiency of the cost accounting and control system at Russian enterprises in the industry.

The methodology of the research is based on the analysis of the following information:

- Statistical data published by the federal state statistics service Rosstat.
- Forecasts for the development of the global construction market Global Construction 2030 prepared by experts Global Construction Perspective and Oxford Economics
- ENR ratings of the world's largest construction companies.
- Ratings of Russian construction companies from such publications as RBC, Forbes and annual published reports of construction companies.

RUSSIAN CONSTRUCTION MARKET: DYNAMICS AND STRUCTURE

Construction is one of the largest and most capital-intensive sectors of the economy. Its share in Russia's GDP is about 5% [3]. According to Rosstat, the volume of work performed in the "Construction" type of activity in our country in 2022 amounted to 12,865.5 billion rubles. (\$ 188.2 billion), and at the beginning of 2023 increased by 5.2% compared to the previous period. Despite the economic and political crises of recent years, this figure is growing every year, which indicates a high demand for construction products. During 2022, 160,189.6 thousand m² of space were put into operation; of which 79% (or 126,675.5 thousand m²) were residential buildings; commercial buildings accounted for only 5%, and the shares of industrial, agricultural and educational buildings each amounted to 3% (*Fig. 1*). Thus, the basis of the Russian construction market is residential construction (which corresponds to world indicators).

From the point of view of forms of ownership, the structure of the market in question has undergone significant changes over the past 20 years. Thus, currently most of it is occupied by private companies (*Fig. 2*), and the share of state-owned companies in 2019 accounted for only 1.4%. This indicates

the transition of the Russian construction industry from a planned economy to a free market [3].

It is worth noting that despite the annual increase in the volume of construction work in each category of property, it is private property that is developing most dynamically: its share in the total volume has increased by 6.8% over the past five years. Private companies are the main driver of the construction market in our country. The share of foreign enterprises and organizations with mixed ownership has decreased by 3% and 2.6%, respectively, since 2018 due to the economic and political crises of recent years.

In connection with the decisions of large American and European companies to leave the Russian market, some experts predict the arrival of Asian players, which primarily include Chinese companies [4].

WORLD CONSTRUCTION MARKET

Housing construction is the backbone of the industry and plays an important role in the development of the global economy. Its main trends and prospects are researched and analyzed by well-known consulting companies such as The Business Research Company, Global Construction, Global Data and PWC (Oxford Economics).

According to Global Construction 2030¹ forecasts, the value of global construction production volumes will increase to approximately \$ 14.8 trillion by 2030 (*Fig. 3*); the growth rate will average 2.5% per year.

The world leaders in the industry are countries such as China, the USA, Japan, as well as the states of the European Union, while the Russian Federation, as of 2022, occupies about 2% of the world volume. Since the prospects for the development

of the construction market are related to population dynamics [3], active construction, corresponding improvement in technology and the introduction of innovations in management will be observed, according to forecasts, in the countries of Africa and Asia, where the main population growth is expected.

In the coming years, an inflow of investment is predicted in the rapidly growing construction business of Southeast Asia and other developing economies; They are characterized by high rates of urbanization and economic growth; they will become the main drivers of both local and global construction production markets.

The Asian region, with its large young population, is projected to see an increase in infrastructure, residential and educational projects, while Europe, with its rising average age, will need health and cultural facilities.

According to experts, China will retain its leading position in the global construction industry, but its share in the global volume will decrease from 32% (2020) to 29.2% (by 2030). According to Oxford Economics experts, India will overtake Japan and become the third largest construction market.

The international trend towards globalization leads to an increase in the number of multinational construction companies. If previously local contracting enterprises were involved in the implementation of projects in this area, now the contractor is determined through international tenders, in which both large local companies and transnational contracting organizations participate, which involves labor migration of labor and management personnel [5]. Thus, due to the participation of foreign contractors, national construction technologies are integrated and standardized not only within a single state, but also at the global level. The largest players in the

¹ Global Construction 2030 by Global Construction Perspective and Oxford Economics. URL: <https://www.gihub.org/resources/publications/global-construction-2030>

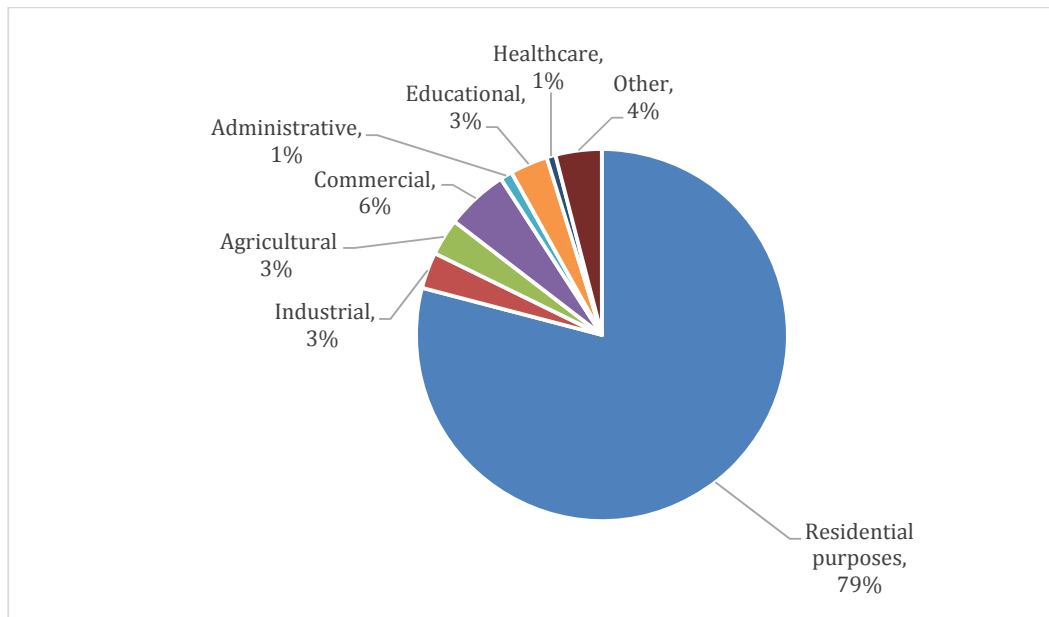


Fig. 1. Commissioning of residential and non-residential buildings in the Russian Federation for 2022

Source: compiled by the authors based on Rosstat data. URL: <https://rosstat.gov.ru/>

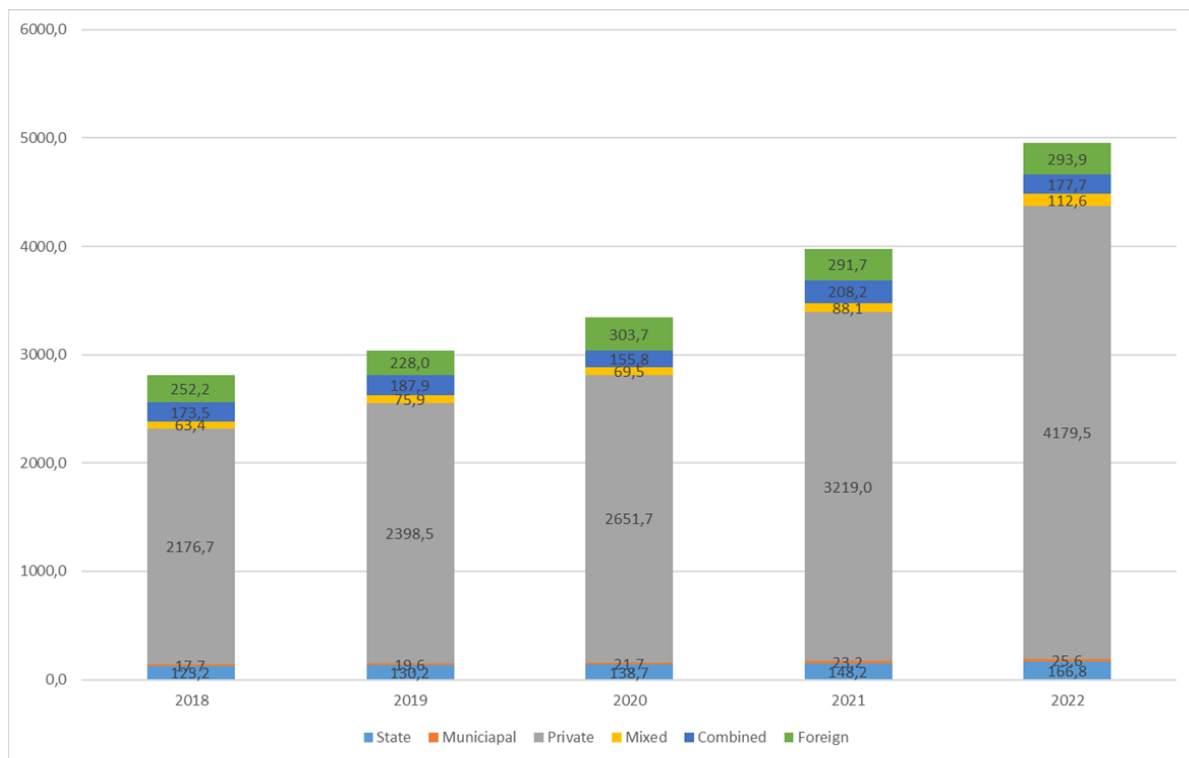


Fig. 2. Dynamics of the distribution of the volume of work performed by the type of economic activity "Construction" by organizations of various forms of ownership (excluding small businesses), million rubles

Source: compiled by the authors based on Rosstat data. URL: <https://rosstat.gov.ru/>

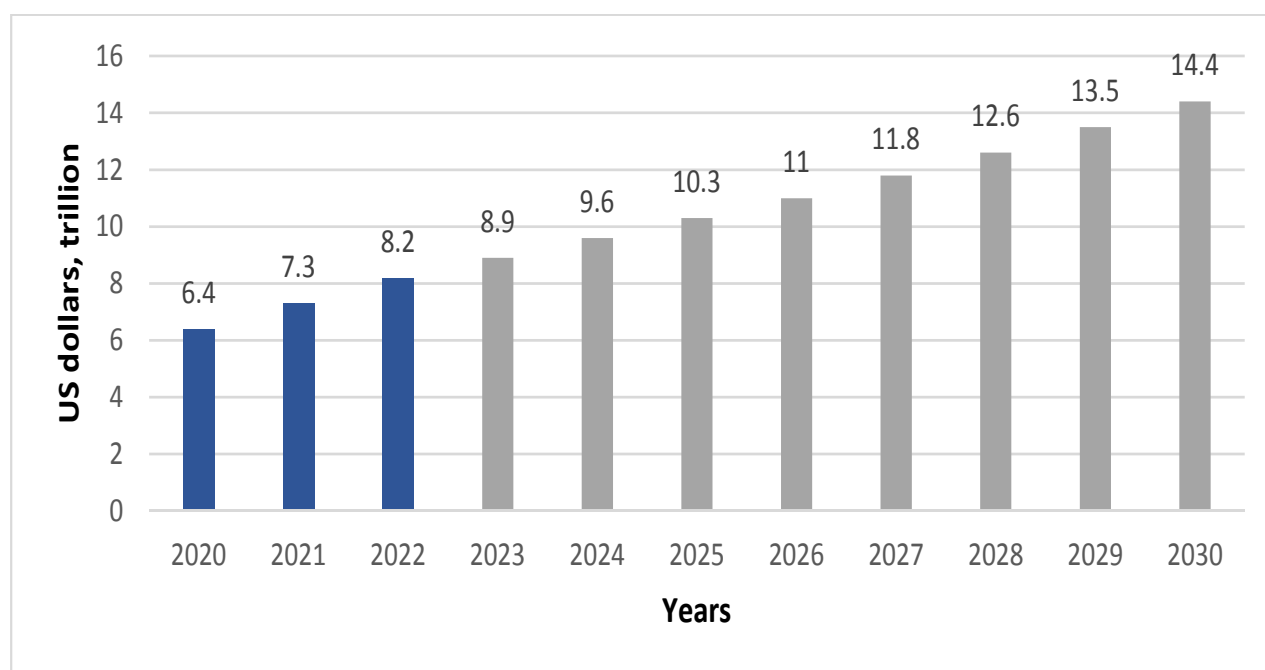


Fig. 3. Global Construction Market Size Actual for 2020–2022 and Forecast for 2023–2030 in trillions of US dollars in 2020 prices

Source: compiled by the authors based on Oxford Economics data. URL: <https://www.gihub.org/resources/publications/global-construction-2030>

construction market have their representative offices in most countries, and the number of employees of these companies is comparable to the population of a small city.

The top five largest construction companies in the world in 2022 by revenue included China State Construction Engineering Corp Ltd, China Railway Group Ltd, China Railway Construction Corp Ltd, China Communications Construction Co Ltd and Metallurgical Corporation of China Ltd; The world's 10 largest construction companies collectively generated revenue of \$ 1,067,926 million, with average revenue growth of 13.8%² In terms of geographical distribution, 8 of them are based in Asia, and only 2 in Europe.

The total number of employees of the top ten as of 2021 was 1,810,330 people. It should also

² 2022 Top 250 Global Contractors. ENR. (official site). URL: <https://www.enr.com/toplists/2022-Top-250-Global-Contractors-Preview>

be noted that only 4 organizations in the world have a turnover of more than \$ 100 billion (Fig. 4).

As can be seen from the Fig. 5 of the diagram, the top three have a significant gap from other market players in terms of annual turnover. Analyzing the revenue data of global construction companies, the following groups can be distinguished:

- turnover from 100 to 300 billion dollars; This group includes only 4 companies, and all of them are from China;
- turnover from 30 to 70 billion dollars; This group includes 9 companies, and the leading place is occupied by the French VINCI Construction;
- turnover from 10 to 30 billion dollars for 21 companies, mainly from the USA;
- turnover from 5 to 10 billion dollars – 25 companies from Asia, Europe and the USA;
- turnover not exceeding 10 billion dollars; This is the largest group – about 40% of the

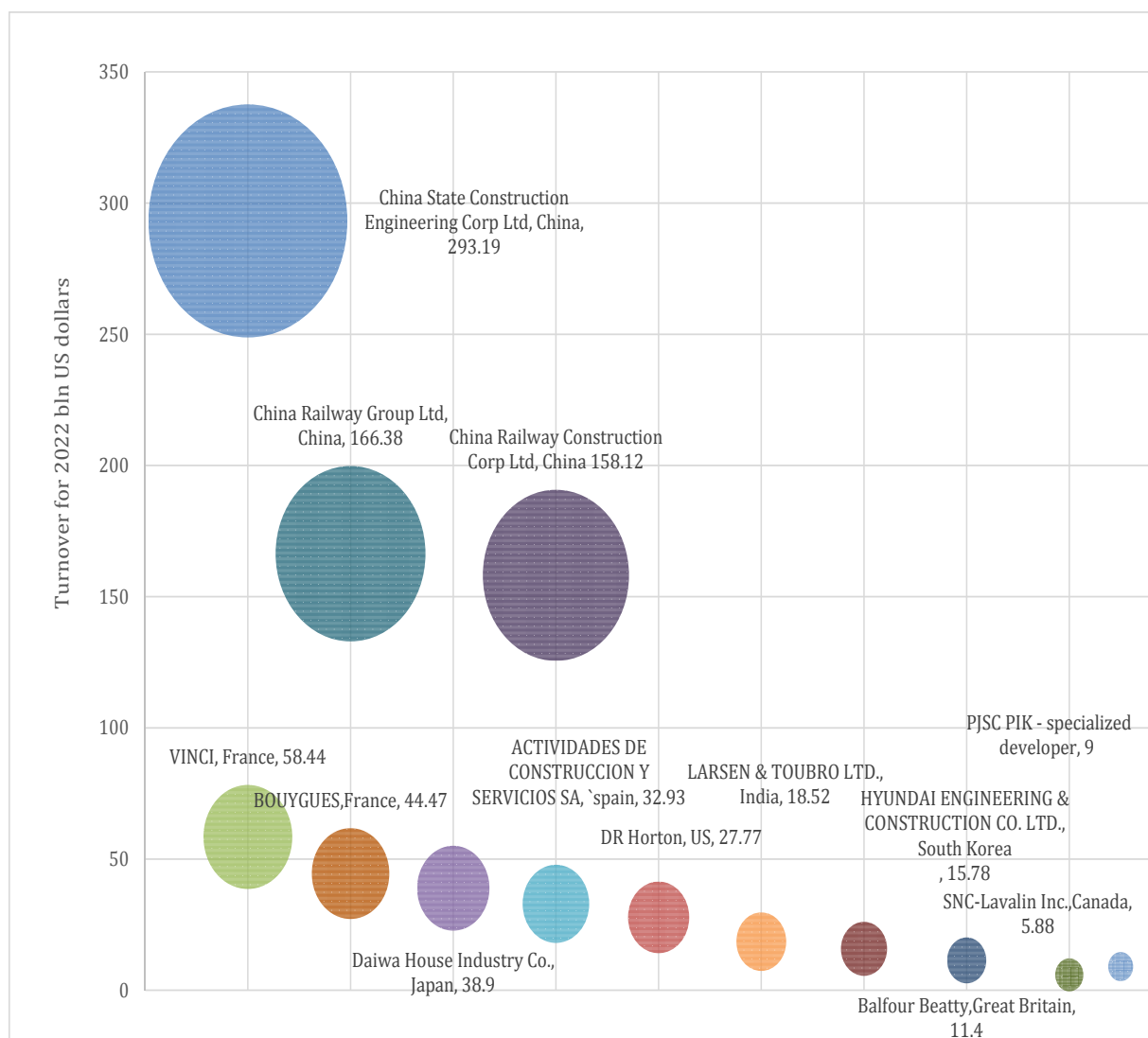


Fig. 4. Comparison of construction company sizes by turnover for 2022

Source: compiled by the authors based on ENR data. URL: <https://www.enr.com/toplists/2022-Top-250-Global-Contractors-Preview>

companies in the rating, which also includes the largest Russian enterprises.

Thus, we can conclude that Russian companies lag significantly behind the world leaders in the construction industry in terms of turnover and growth rates.

KEY PLAYERS OF THE RUSSIAN CONSTRUCTION MARKET

The construction industry in Russia is sensitive to any crisis. The geopolitical situation, as well as new economic conditions,

significantly affected companies in this sector of the economy, which had to develop new strategies to achieve sustainability and further development in the current conditions. According to the results of a survey of representatives of thousands of construction and design organizations conducted by the inter-industry association of self-regulators “Synergy”³:

³ The interindustry association of self-regulators “Synergy” found out how the current economic situation affected the work of construction companies. URL: <https://s-nrg.ru/novosti-sro/>

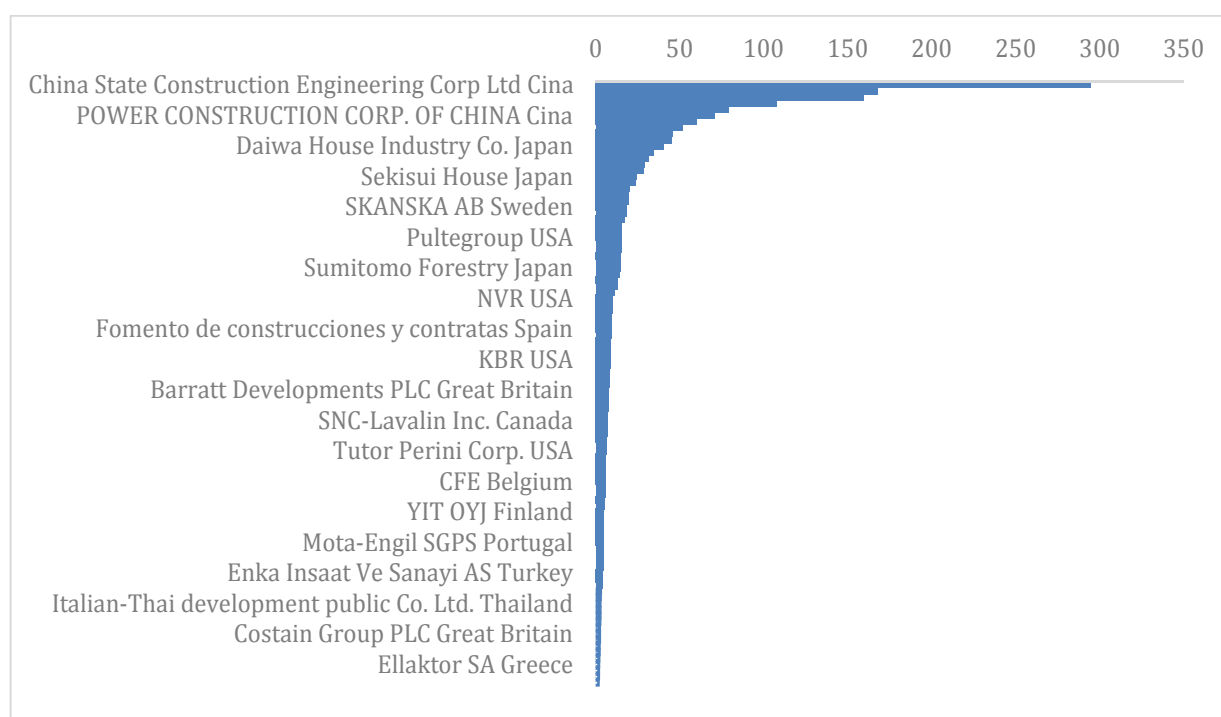


Fig. 5. Comparison of the annual turnover of the construction companies in the world according to 2022 data

Source: compiled by the authors based on ENR data. URL: <https://www.enr.com/toplists/2022-Top-250-Global-Contractors-Preview>

- 40% of respondents were forced to suspend the construction of some projects due to difficulties in supplying construction materials;

- about 29% of companies decided to freeze the construction of projects with a low level of readiness and directed all resources to complete those whose level of readiness was considered high;

- 25% of respondents stated that the new economic conditions did not in any way affect the activities of their companies and did not affect the production program.

The remaining respondents noted a decrease in the number of design orders (3%), and also reported the termination of contracts for the supply of equipment due to a significant increase in its cost (more than 4%).

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Despite the unfavorable market situation, the prospects for the Russian construction industry look encouraging. It is expected that its further growth will be ensured by government support, a reduction in the key rate and an increase in the volume of mortgage lending [4].

The presence of super-large companies in the local construction market creates enough production capacity necessary for large capital-intensive projects, which, in turn, contribute to the growth and development of the industry; the absence of a constant flow of megaprojects slows down its development. It is worth noting that among Russian construction companies, only six have revenues of more than 100 billion rubles. For comparison, in China there have been about 160 such organizations for decades, and in the United States — 12.

The rating of Russian enterprises in the construction industry for 2022, according

Table

Rating of Russian construction companies by revenue

Rating	Company (group)	Revenue dynamics, %	Net revenue, billion rubles	Reporting form	Region
1	PJSC "PIK-specialized developer"	35.5	380.0	IFRS	Moscow
2	Tashir Group	2.8	186.0	managerial	Moscow
3	FSK Group	14.6	129.7	managerial	Moscow
4	Don Stroy Invest	40.2	129.4	IFRS	Moscow
5	LSR Group	6.9	118.0	IFRS	St. Petersburg
6	Setl Group	18.8	116.5	IFRS	Moscow
7	Etalon Group	-6.7	78.6	IFRS	Moscow
8	Ingrad	24.3	70.6	IFRS	Moscow
9	Samolet Group	17.7	60.1	IFRS	St. Petersburg
10	GVSU № 4	210.6	47.6	RAS	Moscow
11	Pioner Group	16	46.4	IFRS	Moscow
12	A101 Group	5.1	39.9	IFRS	Moscow
13	Cortos Group	27.9	33.8	IFRS	Moscow
14	Mospromstroy	-5.8	27.3	RAS/ IFRS	Moscow
15	Brusnika Construction and Development	26.3	24.4	IFRS	Ekaterenburgr
16	MITs Group	-0.3	23.9	IFRS	Moscow

Source: compiled by the authors based on RBK 500 data. URL: <https://www.rbc.ru/story/57d825179a79476061252094>

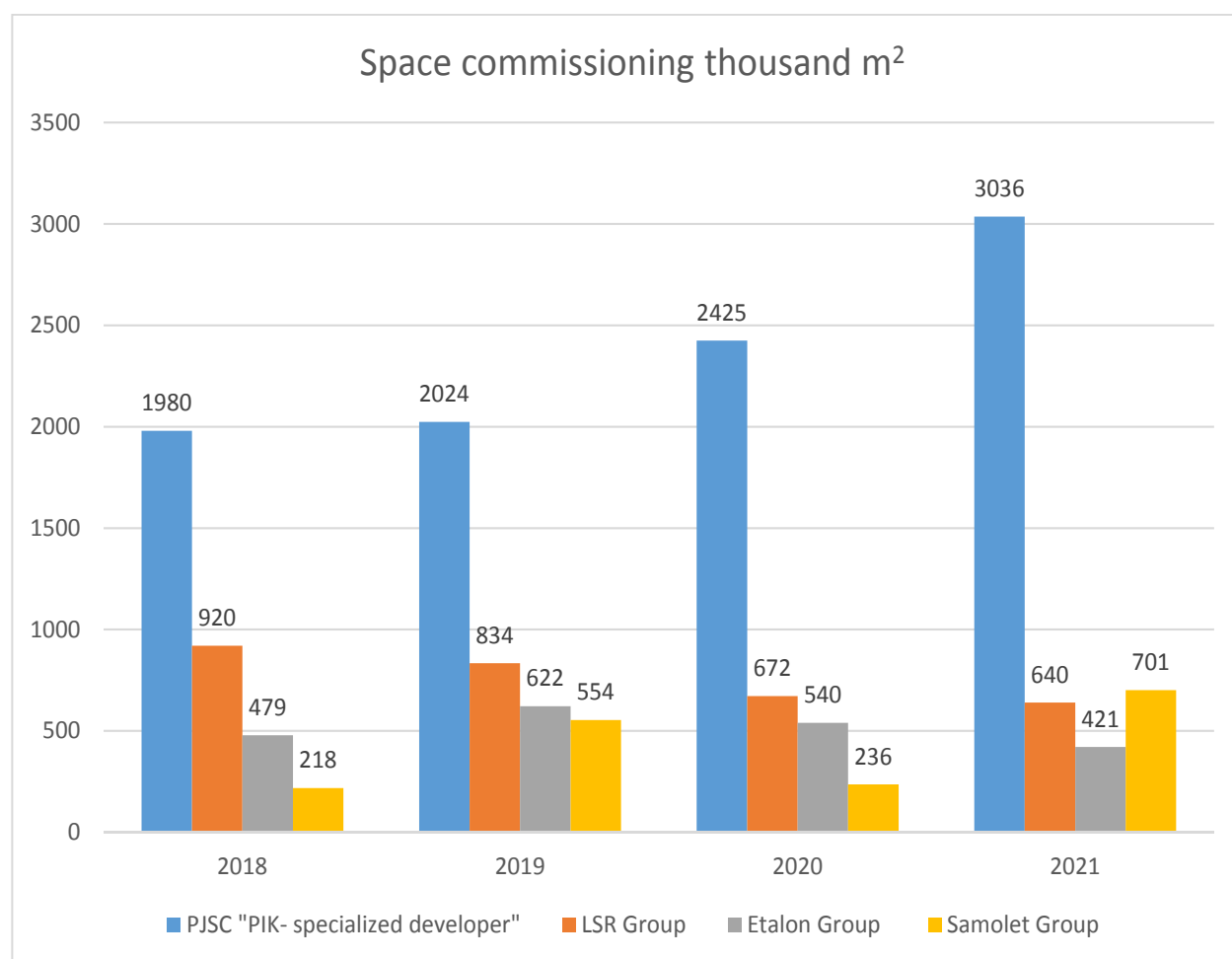


Fig. 6. Dynamics of space commissioning by Russian developers, thousand m²

Source: compiled by the authors based on ENR data. URL: <https://www.enr.com/toplists/2022-Top-250-Global-Contractors-Preview>

to RBC,⁴ was headed by development companies (see Table). First line with revenue of 380.2 billion rubles. for 2020 was occupied by PJSC PIK-Specialized Developer, the largest developer in Russia. Next with revenue of 186 billion rubles. there was a diversified Russian industrial and construction group "Tashir". It was followed by Moscow developers GC FSK and Don-Stroy Invest, three companies from St. Petersburg: LSR Group, Setl Group, GC Etalon. The top

10 also included Ingrad, Samolet Group of Companies, and the state company GVSU No. 4 closed the list. It should be noted that 8 out of 10 listed enterprises specialized in the construction of residential buildings.

The dynamics of space commissioning by Russian developers is shown in Fig. 6: PJSC PIK-Specialized Developer showed annual growth and had a significant lead over its closest competitors, while the indicators of LSR Group and Etalon Group decreased significantly over the past two years.

In terms of geographical distribution, the majority of large companies are concentrated

⁴ RBC 500. URL: <https://www.rbc.ru/story/57d825179a79476061252094> (date of request: 1.05.2023).

in the capital. In terms of the number of projects being implemented, the leader is the Central Federal District; it is followed by Privolzhsky and the Ural Federal District closes the top three.

It is important to note that most of the Russian market leaders, whose head offices are located in Moscow, use International Financial Reporting Standards (IFRS). IFRS are used to increase investment attractiveness, as well as increase the international involvement of large Russian companies in the construction complex [6]. However, only a few contracting organizations publish their reports, and these are mainly large enterprises. The non-publicity of the Russian construction industry indicates that companies are not ready to expand their capabilities in the financial market (through the placement of securities: shares or bonds) and attract investors, including foreign ones.

To track industry dynamics, the Moscow Exchange began calculating the industry construction index in 2020. It includes securities of four public companies: Etalon Group of Companies, LSR Group, PJSC PIK-Specialized Developer and Samolet Group of Companies [7]. It should be emphasized that the largest organizations in the Russian construction complex are focused exclusively on the domestic market, while foreign ones, on the contrary, are more interested in export contracts.

In modern conditions, in the global economy, the importance of exporting services provided to construction companies (in particular, in the field of project management) has increased significantly [9]. Among the advantages of entering the global market are:

- creation of a stable volume of orders and production capacity utilization,
- diversification of income and risks,
- increase in efficiency,

- creation of a competitive advantage and increase in the company's rating,
- stimulation of the development and implementation of innovations,
- the opportunity to exchange experience with foreign companies,
- increase in turnover and growth of the company [8].

Transnational construction firms, as a rule, are multi-industry holdings [10], the business model of which contains a complex of works at all stages of the project life cycle, starting with its creation and including construction, formation of infrastructure and management, as well as operation of the facility until its demolition and carrying out dismantling work.

A number of Russian companies are already operating in the territories of the former USSR countries, as well as in European markets with attractive low interest rates on loans and high demand for real estate. These are organizations such as Dekra Construction, Inteko Group of Companies, Mirax Group, Zarubezhstroy OJSC, etc.

Despite the increasing interest of Russian developers in foreign projects, MR Group experts do not believe that this phenomenon will become widespread [11], because entering a foreign market is associated with a number of difficulties: a large amount of investment, searching and selecting personnel for foreign projects, creating infrastructure and opening an organization office in a new country.

On the one hand, this is a risk, and on the other hand, it is an opportunity to increase profits and increase competitiveness [12], as well as ensure international recognition of Russian companies, subject to effective project management. Only large enterprises have the resources to overcome the risks associated with entering new markets, so at the moment the trend towards expansion of Russian construction companies is just beginning to take shape [9].

The domestic construction market is characterized by an opaque business environment [9] along with the presence of both outdated and conservative and modern management systems. However, it is worth noting that there is a direct relationship between internationalization and the competitiveness of a construction organization. Excess capacity intensifies competition and forces companies to expand beyond the national market. According to Rosstat, production capacity utilization in the construction sector is 66%, which creates the preconditions for the formation of transnational construction companies.

With the development of communication technologies, large contracting organizations have received unique opportunities for further growth, which has shaped modern development vectors. To ensure the coordinated operation of such a structure, it is currently impossible to do without a clearly structured system of cost accounting and control. In the context of digitalization, a modern construction company must formulate special principles and processes for project management, as well as organize appropriate interaction between their participants and predict possible risks. Creating an effective cost control system for project implementation will provide companies with competitive advantages both in the domestic and global markets.

CONCLUSIONS

The global construction industry will continue to grow due to the development and urbanization of the Asian region, where the leaders of the world ranking of construction companies and the main volumes of international construction production are concentrated, which is determined by

the dynamics of population growth. For many years, the leading countries in the construction market have been China, the USA, Japan and the European Union, while the Russian Federation lags behind in terms of construction production volumes.

The key players shaping the dynamics of the domestic construction market are development companies, since housing construction remains the driver of the industry.

The scale of Russian construction organizations is still noticeably smaller than foreign ones, which is determined by the characteristics of the national market and factors inhibiting its development. These include the lack of a sufficient number of large capital-intensive projects that could maintain a high level of revenue for several years, as well as a focus on activities within the country. Large foreign companies, on the contrary, generate a significant portion of their revenue through the implementation of export contracts.

At the moment, the trend towards expansion among Russian construction companies is just beginning to take shape. The condition for their competitiveness in the global market is internationalization and an effective project management system, including control of costs and project deadlines.

In conditions of economic and political crises, the leaders of the global construction complex are paying more and more attention to achieving the main goals of the project: meeting deadlines, quality requirements, as well as the budget and contractual cost. But with supply chains still recovering from the pandemic, effective cost accounting and control systems are needed to contain rising project costs and ensure companies remain competitive.

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