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Innovative approaches in the field of low-rise housing construction and digital transformation of investment and construction activities as the main focus of the All-Russian Housing Congress

This July, All-Russian Housing Congress brought together about five thousand participants, including specialists in housing construction, real estate business, mortgage lending, information technologies, interregional transactions, education and training in the real estate market. Among the most relevant topics, discussed by the researchers and practitioners, the following ones can be highlighted: at present, the market of standard private housing construction is not mature enough, construction is mainly performed by the citizens themselves; the mortgage market, focused on this segment, is in its infancy; there is a need to introduce a standard for the integrated development of territories in respect of low-rise suburban housing construction, as due to its absence banks and investors do not have clear guidelines for assessing the investment attractiveness of projects; innovative approaches in the field of low-rise construction, latest methods of digitalization of investment and construction activities at all stages and levels of the project life cycle; developing a reliable mortgage lending mechanism for this market segment; adoption and implementation of up-to-date standards for the integrated development of low-rise construction areas. According to the co-authors, the above-listed topics encompass the main directions for the development of this industry.

Keywords: *low-rise construction, digital transformation, All-Russian Housing Congress, private housing construction, standard for integrated development of territories*

On June 11, 2021, All-Russian Housing Congress¹, one of the most important events in the Russian real estate market, completed its work. It brought together about 5,000 participants. During five days of the Congress work about four hundred events were held; they were focused on housing construction, real estate business, mortgage lending, commercial and foreign real estate, information technologies, advertising and public relations, interregional transactions, education and training in the real estate market, as well as many other relevant topics. About five hundred participants spoke at the event; many master classes and training sessions were conducted by leading business trainers and practitioners of the real estate market.

The event was attended by the representatives of major development companies, leading real estate agencies and Russian banks. Presentations were delivered by the representatives of high-profile players in the Russian investment and construction market, including Etalon, Samolet, Setl City, Glavstroy, YugStroyImperial, Kortros, Brusnika, Strana Development, KVS, TEKTA GROUP, RBI holding company, AVA Group, and many others.

In addition to the Congress work and exchange of opinions at the conferences and seminars, participants could get to know the latest industry trends at more than forty specialized exhibition stands (Fig. 1).

The conference “Low-rise suburban construction: investments, development, marketing” aroused great interest among numerous Congress partic-

ipants. At the event, representatives of public organizations, government agencies, banks, as well as practicing builders and developers from different regions of Russia could discuss the most relevant development issues of this market segment.

Ilya Ivanov, Head of the Mortgage Market Development Department, DOM.RF JSC, spoke in detail about the existing and prospective instruments for the support of private housing construction in the Russian Federation. The summary of national project “Housing and Urban Environment”² specifies its goal to increase the commissioned area of private housing in the sector of private housing construction (PHC) from 35-39 million to 50 million square meters by 2030 (Fig. 2).

The demand for private housing is high enough: according to the polls, conducted by the All-Russian Public Opinion Research Centre³, about 70 % of Russians would like to live in their own houses; the COVID-19 pandemic and remote working have boosted the demand for private housing [1]. However, substantial constraints depress the demand in this segment in comparison with apartment residential buildings (ARB) (Table).

Thus, we can make a conclusion that at present the market of standard liquid private housing is not mature, the amount of construction work, performed by the citizens, prevails (70 %, according to

1 About the Congress. URL: https://sochicongress.ru/congress/about_congress.html

2 Passport of the National Project “Housing and Urban Environment”. URL: <http://government.ru/info/35560/>

3 Poll VTsIOM and ДОМ.РФ “The most demanded characteristics of housing in 2020” URL: <https://дом.рф/analytics/polls/>



Fig. 1. Interaction at the Congress stand

the speaker). Among the main reasons for this state of affairs, it is necessary to highlight the following points:

- Infrastructural development of land plots is cost intensive and involves a time-consuming approval process (commercial projects cannot endure the infrastructure load on their own, while the programs in progress, for example, “Stimulus”⁴, are ineffective, since it is more profitable to co-fund the infrastructure of ARB than AHC);
- the lack of guarantees issued to the participants of the AHC market makes it untransparent and highly risky (there are no quality control and construction deadlines, construction facilities are not standardized, no project documentation is available, obsolete technologies are often used, contracts are not subject to registration in the Federal Register, and payments to developers are made without using escrow accounts);
- the mortgage market is not sufficiently developed (there are no public-access low-interest mortgage lending programs, PHC interest rates are 2...3 % higher than the those applied to ARB, credit risks and operating costs are high);
- there are no regular state support measures (unlike the implementation of ARB projects).
- Against this background, JSC “DOM.RF” suggests the following set of actions:
 - Standardization of houses;
 - involvement of specialized technical representatives of the construction owner and developers;
 - using a library of standard design and land-use planning solutions;

4 Execution of FB under the program “Stimulating programs for the development of housing construction in the constituent entities of the Russian Federation” — Official site of the Ministry of Construction of Russia. URL: https://minstroyrf.gov.ru/docs/74283/?sphrase_id=1325805

- stimulation of the use of modern energy-efficient, energy-saving technologies and materials that reduce the negative impact on the natural environment.

Enhancing the protection of citizens and creditors:

- Norms and mechanisms, specified in Federal law 214-FZ⁵ (use of escrow accounts, registration of agreements in the Russian State Register, protection of rights of citizens and banks, consolidation and management of common property in settlements) should be applied to PHC.

Getting banks to work with PHS:

- applying state-subsidized mortgage programs to PHC;
- standardizing the PHC market to increase the liquidity of collaterals.

Subsidizing the infrastructural development by means of:

- issuing infrastructure bonds;
- adopting independent regulations that govern subsidies for PHC.

Increasing market transparency through digitalization of customer interaction tools and services:

- submitting PHC project information to the Unified information system of housing construction (UISHC)⁶;
- implementing the “PHC Construction” customer interaction tool within the framework of the “Digital construction” tool⁷ designated for the conversion of principal operations and services to the electronic format.

In his report, Anton Minedzhyan, Head of a real estate development company, specializing in low-rise construction, addressed the need to introduce a standard for the integrated development of territories in terms of the private housing construction, since the absence of such a standard deprive banks and investors of any clear guidelines for evaluating the investment attractiveness of projects, and it takes much more time for consumers to make decisions.

The practice of development of suburban and rural areas, market research and analysis of sales and consumer requests, the long-term experience of living in cottage villages that have ready houses for sale, the analysis of the international experience [2, 3], effective technical standards of engineering support, as well as effective urban planning standards⁸, if taken as a whole, are efficient enough: Russia has learned to implement ergonomic, liquid, effective projects of low-rise suburban residential buildings. However, according to the speaker, the experience of the professional community alone

5 On participation in shared construction of apartment buildings and other real estate and on amendments to some legislative acts of the Russian Federation (with amendments and additions) : Federal Law of December 30, 2004. No. 214-FZ.

6 Unified information system for housing construction. URL: <https://наш.дом.рф/>

7 Passport of the national project “National Program” Digital Economy of the Russian Federation (approved by the Presidium of the Council under the President of the Russian Federation for Strategic Development and National Projects, Minutes of 04.06.2019 No. 7).

8 SP 30-102-99. Planning and development of territories for low-rise housing construction / Set of rules dated December 30, 1999 No. 30-102-99.

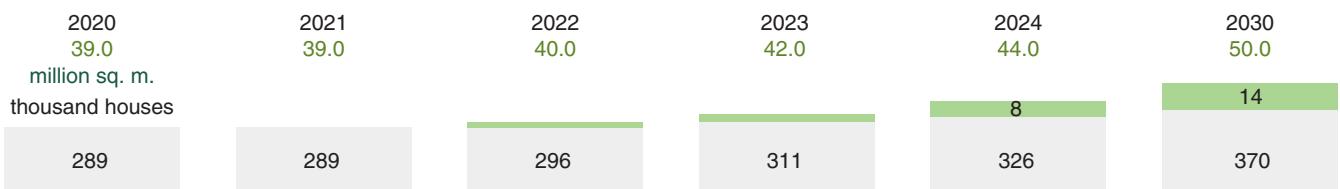


Fig. 2. Planned increase in commissioned housing in the private housing construction sector



▶ is insufficient for the well-balanced work and synchronization of the efforts of the construction process participants [4]: a stable sector of the economy also needs a legal framework, as well as research and economic substantiation.

However, there are no standards for comfortable modern family homes (for example, high-speed Internet, security and access control systems); there are no criteria for the sufficient liquidity of projects on the integrated development of suburban areas.

What should be done at the stage of inception of the institute of integrated development of PHC territories? According to the speaker, supported by many practitioners who attended the session, a more detailed rate setting system is needed, binding legal documents shall be adopted by the state, benchmark-setting teaching standards must be developed and disseminated. It is necessary to determine:

- the width of streets in a particular location;
- the difference between a summer cottage project and a cottage village for the year-round use;
- parameters determining the feasibility of developing a territory for the year-round residence and those of a seasonal (country) residence;
- features of new suburban and rural areas of integrated development;
- the difference between the parameters of an economy-class project and a premium class project;
- methods of regulating uniformly built-up areas using a range of facade colour solutions.

The speaker informed the audience that the Ministry of Construction of the Russian Federation, acting together with the Russian State Register, was establishing the All-Russian Institute of Spatial Planning at its subordinate research organization TsNIIP. This institute should develop appropriate projects for regions that lag behind in terms of the area of commissioned housing, since they have no funds for the development of urban planning documents. In addition, this institute will be engaged in the compilation of a library of standard projects that will be used in different climatic zones of the country after minor revisions.

Proceeding from the results of this part of the conference, a decision was made to submit the following proposals to the Ministry of Construction of the Russian Federation in terms of the development of a standard that will govern the integrated development of PHC territories:

- the composition of the standard: the general part and the local (regional) part;
- guidelines for the breakdown of housing construction projects (standard, highly comfortable, top-category ones);

- project typology guidelines (suburban, rural, country house territories);
- standardization of the use of technological innovations (communications, video surveillance and access systems, "smart city", "smart housing and utility services");
- setting the parameters of walking and transport accessibility of amenities that are in demand in the modern society (co-working spaces, cafes, eco-farms);
- development of standards for architectural and stylistic solutions.

The majority of the Congress participants believe that digitalization of nearly all business processes must be and is becoming another direction for the development of investment and construction activities in the country. Construction digitalization is gradually developing into full-scale digital transformation of the construction industry. In addition to known BIM technologies⁹ [5, 6], which are widely used in design, several Congress participants presented cutting-edge digital ecosystems of the full cycle [7], allowing to encompass nearly all stages of the life cycle of an investment and construction project.

Irina Rudakova, Vice President of the International Association of Housing Construction and Mortgage Funds¹⁰, expert.ipoteka project director (mortgage lending education activities in social networks), presented innovative digital platform Banki.shop¹¹ as a modern tool for the prompt and highly efficient interaction between a client, a bank and a developer in respect of the purchase of real estate, including low-rise construction facilities.

According to the speaker, developers of low-rise building projects have started connecting to the Banki.shop digital platform. Nevertheless, all platform users (for now, these are only professional market players) have access to low-rise housing construction facilities for sale and can select banks to issue mortgages; hence, their clients get an opportunity to purchase houses and choose the most optimal mortgage lending programs (that meet the specific needs of a client). In fact, this leads to an increase in the demand for the developer's product among the intermediaries connected to the platform.

The platform is attached to the regularly updated database of mortgage programs offered by more than 60 banks, of which 34 banks have low-rise construction programs, 30 banks finance the purchase of ready-made houses, 23 banks finance the purchase of

⁹ BIM and IoT are the Internet of Things. Association of organizations for the development of information modeling technologies in construction and housing and communal services. URL: <https://bim-association.ru/bim-iot-1>

¹⁰ Official website of the association and Housing Funds and Mortgage. URL: <http://npmaif.ru>

¹¹ Banki.shop. URL: <https://banki.shop>

Characteristics of PHC and ARB markets

	PHC	ARB
Housing stock	1 bln m ² (42 % in the cities)	2.7 bln m ² (89 % in the cities)
Commissioned housing stock	32...39 mln m ² (260–290 thousand houses)	40...49 mln m ²
Standardization	Low <ul style="list-style-type: none"> • No regular land-use planning • Heterogeneous designs of houses 	High <ul style="list-style-type: none"> • Construction concentrated in the cities • Liquid market of standardized apartments
Share of mortgage transactions	< 2 %	> 50 %
Share of project-funded construction	< 0.1 %	> 50 %

townhouses and 4 banks finance the construction of private houses. The platform has digital scoring modules that use 168 parameters and help to select mortgage solutions out of 500 loan programmes. In each region, the platform is customized to the specific features of local banking programs (including social programs and new mortgage products), and it takes into account the previous experience of specialists working with mortgage programs and specific bank managers.

According to the speaker, the project financing of private housing construction encompasses two vital issues: they are timely construction and timely selling of constructed houses before the expiry of the credit term. Therefore, the proposal consists in using all new available tools that will reduce the time for making a deal, as well as provide a reliable lending mechanism for individuals. Such tools include the Banki.shop platform, which not only offers a selection of new mortgage programs, but is also able to ensure interaction between participants of construction, sale and lending processes all over the Russian Federation.

CRM platform Banki.shop is a hardware and software system, registered by the Federal Service for Intellectual Property (Rospatent), that allows all registered users — professional participants of the real estate and mortgage lending market (developers, realtors, brokers) — to use artificial intelligence to select loan products that fit the needs of a client and ensure a 93 % likelihood of a positive decision, send generated applications to partner banks, monitor and record submitted applications, conduct checks on individuals and real estate items, etc.

As the speaker said, presently, the system is being proactively introduced in the regions of the Russian Federation, that have reputable unions of real estate agents. The Banki.shop service is already in operation in the following regions: St. Petersburg, the Leningrad Region, the Moscow Region, the Khanty-Mansi Autonomous District (Surgut), the Chelyabinsk Region, the Novosibirsk Region, the Samara Region, the Saratov Region, the Krasnodar Territory (Sochi), the Rostov Region, the Tyumen region, the Nizhny Novgorod region, the Republic of Crimea and the city of Sevastopol. 1,600 users are

already connected to the platform. In the near future, all regions of Russia, as well as the CIS countries, can be connected to the platform.

Therefore, we can make a conclusion that innovative approaches to low-rise construction, demonstrated at the Congress, latest methods of digitalization of investment and construction activities at all stages and levels of the life cycle of development projects, including the organization of their investment support [8], the development of a reliable mortgage lending mechanism for PHC projects, the adoption and implementation of modern standards towards the integrated development of low-rise construction areas represent new principal directions for the development of the industry in the coming years.

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Инновационные подходы в сфере малоэтажного жилищного строительства и цифровая трансформация инвестиционно-строительной деятельности — основные акценты Всероссийского жилищного конгресса

В июле текущего года состоялся Всероссийский жилищный конгресс, собравший около 5 тыс. участников — специалистов по жилищному строительству, риэлтерскому бизнесу, ипотечному кредитованию, информационным технологиям, межрегиональным сделкам, образованию и подготовке кадров на рынке недвижимости. Среди наиболее актуальных тем, обсуждавшихся учеными и практиками, можно выделить следующие: в настоящее время рынок стандартного индивидуального жилищного строительства не сформирован, преобладает строительство собственными силами граждан; рынок ипотеки в сегменте находится в зачаточном состоянии; назрела необходимость внедрения стандарта комплексного развития территорий для малоэтажного пригородного жилищного строительства, так как вследствие отсутствия такого стандарта банки и инвесторы не имеют четких ориентиров для оценки инвестиционной привлекательности проектов. Инновационные подходы в сфере малоэтажного строительства, новейшие методы цифровизации инвестиционно-строительной деятельности на всех стадиях и всех уровнях жизненного

цикла проектов, выстраивание надежного механизма ипотечного кредитования в данном сегменте, принятие и внедрение современных стандартов комплексного развития территорий малоэтажной застройки являются, по мнению авторов, главными магистральными направлениями развития отрасли.

Ключевые слова: малоэтажное строительство, цифровая трансформация, Всероссийский жилищный конгресс, индивидуальное жилищное строительство, стандарт комплексного развития территорий

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