CROSS-SECTORAL COMMITTEES

REAL ESTATE COMMITTEE

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KEY PROBLEMS IN DEVELOPMENT AND IMPLEMENTATION OF MODULAR TECHNOLOGIES IN RUSSIA

Over the past several years, the modular construction market in Russia has been developing slowly. The core reason is that developers are not ready to test technological know-how. This is because significant changes in the existing business processes and technologies for the construction of real estate objects are required.

However, due to the launch of project financing schemes and escrow accounts, there has been a change in the cost of development projects, and it has become even more urgent to reduce costs.

Current government initiatives to support the construction industry are insufficient for the development of new technologies in Russia. This is largely due to the lack of centralized support for modular construction at the legislative level.

RECOMMENDATIONS

- To solve the issue of introducing modular technologies in Russia, it is necessary above all to create and develop tools and practices for comparing costs at an expert level. They will make it possible to calculate the financial model for each object, taking into account design and construction risks. Developers will be able to predict the benefits from introducing certain innovations.

- Creation of a single information aggregator for modular construction that unites the government, developers, investors, and manufacturers from around the world will make it possible to accumulate knowledge and experience; introduction and use of modular technologies in commercial and government projects.

- Inclusion of modular technologies at the design stage of social facilities will help manufacturers realize their potential and will stimulate good competition and, in general, contribute to the development of the construction market in Russia.

KEY CHALLENGES FOR DEVELOPMENT OF THE PROPTECH MARKET IN RUSSIA

The concept of "PropTech" integrates innovations applied in different segments of the construction and real estate market at all project stages, including maintenance of the object during its whole life cycle.

The key areas for the development of advanced technologies include "smart" urban planning, formation of "flexible" environments, digital facility management, and transactional support of projects. When applied consistently, all of these deliver quality, reduce risk, and even improve the customer experience and increase lifetime value by offering technical integration of products and services along the customer's entire journey.

In Russia today, integration of individual technologies with core operations is quite rare, and end-to-end business processes are almost never performed. Certain conservatism inherent to the construction industry is reflected in a lower innovation perception rate than in other industries. Factors restraining the introduction of advanced technologies in the industry also include the perceived difficulty of measuring the effectiveness of certain technologies and of predicting the results.

Nevertheless, a strategic approach to building an innovation-based company has become a noticeable trend in recent years, especially among market leaders. They are introducing acceleration programs and creating "digital sandboxes" to test individual solutions and check project settings. Specialized venture capital funds also operate in the market.

RECOMMENDATIONS

There is a need for a technological ecosystem to connect construction, real estate management, the banking sector, and government companies, which would involve:

- creating a PropTech methodology that would cover the entire lifecycle of real estate objects: from the formation of the idea to the investment's exit from the project;
- forming an ecosystem structure that would consider the interests, opportunities, and risks of all participants in the process;
- testing the ecosystem through pilot projects in different cities;
- developing and implementing training programs that foster knowledge of innovative processes and management skills.

USE OF INFORMATION MODELING TECHNOLOGIES (BIM)

Starting on January 1, 2022, it will be mandatory in Russia to use Building Information Modeling (BIM) for all capital construction objects with government participation, according to Russian Government Decree No. 331 of March 5, 2021. And the requirement applies to customers, developers, technical customers, and operating organizations.

The latter is a significant point as the key value of the BIM environment is its integration capabilities that allow one to manage an object throughout its life cycle, keeping control over construction of the building up to the final reports, operation, and forecasting.

Working in a BIM shared data environment gives one the opportunity to save time and resources through their optimal coordination. In addition, making an information model makes it possible to avoid mistakes caused by inconsistencies in the work of related specialists at the design stage. With increased implementation of BIM technologies and their use at a sufficiently high level, they will reduce the potential for conflict in the construction industry as a whole.

RECOMMENDATIONS

- Stimulate the industry's shift to more widespread use of BIM technologies, with a focus on system integration capabilities, throughout the project life cycle.
- Analyze the BIM technologies use practices of different process participants in order to identify problem areas and the risks associated with them.
- Draw up a "risk matrix" of BIM application to facilitate and make seamless the application of the technology.
- Adapt existing legal concepts and work through a number of issues ("legal BIM"), including, in part, insurance and drafting of contracts.
- Consider the opportunities for using "PIM" (Product Information Management) — a unified digital catalog of building materials.

GREEN TECHNOLOGIES IN CONSTRUCTION AND REAL ESTATE IN RUSSIA

"Green" solutions in construction have become mandatory in Europe and are becoming increasingly popular in Russia. The Sochi Olympics and the 2018 FIFA World Cup, for which facilities had to be built to certain standards, had a big impact on the development of green technologies in Russia.

There are several environmental certification systems for construction objects (BREEAM, LEED, WELL) verifying compliance with these standards. Thus, a building certified under one of the systems can be considered as green, as it consumes electricity and heat resources rationally, provides a comfortable microclimate, etc. Essentially, the entire process of building such facilities is shaped by the principle of sustainability. It includes selecting and auditing the object, creating flexible spaces, ensuring safety, and maintaining a quality indoor climate. The result is the Generation 5.0 concept of a space with zoning and space ergonomics, climatic, lighting and acoustic comfort, and the ability to monitor and even control environmental settings.

In recent times and also due to the pandemic, non-traditional offices, flexible co-working spaces, and other options that meet the new format for employee interaction, designed and operating to eco-standards, are increasingly becoming in-demand. Although construction and certification of such green spaces is an additional burden for a developer, there are marketing and investment advantages of such developers' decisions as well. In particular, certification provides a competitive edge and helps to attract buyers and tenants. Capitalization of a green object increases by the price by 10%. Also, one should keep in mind that a building under construction today should meet the needs of tenants decades from now.

However, the Russian market has yet to learn how to "sell" the eco-certification of a building successfully.

RECOMMENDATIONS

- Encourage the broader application of green technologies in the design and construction of residential, office, and industrial real estate.
- Develop and implement training programs related both directly to the green design and to the investment, commercial, and marketing management based on the benefits of "healthy" projects.

More information on the Committee page