

Prof

PROFESSIONALLY ABOUT CONSTRUCTION



Build

Prof Build №3, 2024 English

A portrait of a middle-aged man with short brown hair, wearing a dark blue textured blazer over a light pink shirt. He has his arms crossed and is looking directly at the camera with a slight smile. The background is a blurred outdoor setting with greenery and a wooden structure.

The role of business in the restoration of Ukrainian cities –
Volodymyr Karpliuk, CEO of Investment group «MOLODIST»



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Dear Readers!

Despite the complex challenges we face every day, the construction industry of Ukraine continues to develop and contribute to the country's future. Recovery is underway, and we are proud to tell you about those who — despite the destruction — keep creating, building, and most importantly — believing in recovery of our state.

In this issue of the magazine, you will learn about innovative approaches, modern technologies and new projects that are already being implemented, even in these difficult times. Our experts share their experiences and thoughts on rebuilding infrastructure, overcoming human resources challenges, and the role of women in a traditionally male-dominated industry.

We will not ignore the issue of sustainable development. Important articles of the "Materials and technologies" section will help to understand modern trends and challenges faced by construction workers in wartime conditions.

Together with you, we continue to believe that each step towards the reconstruction of our country brings us closer to victory and a peaceful life. Therefore, this issue is dedicated not only to those who build materially, but also to those who build hope for a better future.

***Together towards the victory!
Only forward - every day, every minute!***

*With faith in Victory,
founder and editor-in-chief of Prof Build magazine
Svitlana Shakh*

General Partner



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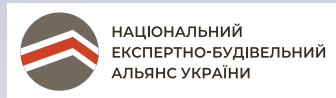
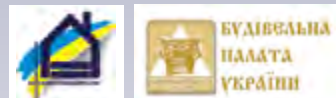
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INTERVIEWS

6. Lev Partskhaladze: «Only by joint efforts we can rebuild a new, modern Ukraine»

10. Opportunities for international cooperation



12. Licensing in construction in Ukraine for non-residents: HOW DOES IT WORK?

14. Holding Company «Energomontazhventilation»: a company that combines experience and modern technologies

16. The role of business in the restoration of Ukrainian cities — Volodymyr Karpluk, CEO of Investment group «MOLODIST»

18. Lyubov Dudnyk: how to be a leader when the sirens don't stop

22. Pavlo Kachur: «Cement industry: role in the recovery of the country and the development of the economy of Ukraine»

25. Preferential banking programs for veterans: SUPPORT FOR DEFENDERS IN 2025

26. OLEKSANDR KASCHENKO: «IT IS IMPORTANT NOT JUST TO RESTORE, BUT ALSO TO SUPPLEMENT THE ENVIRONMENT WITH INNOVATIVE SOLUTIONS»



ANALYTICS

28. Ukrainian construction market during the period of full-scale invasion



MATERIALS AND TECHNOLOGIES

32. INDUSTRIAL TECHNOLOGIES AND REINFORCED CONCRETE: A NEW DEVELOPMENT VECTOR

EVENTS

38. Extended meeting of the CBU on the occasion of Builder's Day

40 Business Day as part of an extended meeting of the CBU Board of Directors

EDUCATION

46. «SCHOOL OF CONSTRUCTION MACHINE OPERATORS» FOR WOMEN: CREATING NEW OPPORTUNITIES AND EXPANDING HORIZONS

48. TRAINING SEMINAR ON CURTAIN WALL FACADES AND POURED FLOORS IN ODESSA

50. TRAINING SEMINAR ON VENTILATED CURTAIN WALLING IN RIVNE

ARCHITECTURE AND DESIGN

52 «RENOVATION OF AN INDUSTRIAL OBJECT INTO A MULTIFUNCTIONAL COMPLEX (BASED ON THE EXAMPLE OF THE CHERNIVTSI WOODWORKING PLANT)»



Lev Partskhaladze: «Only by joint efforts we can rebuild a new, modern Ukraine»



Today, Ukrainian business demonstrates incredible resilience and ability to adapt to challenges arising from war, constant shelling, energy crisis and mobilization processes. It continues to operate, demonstrating an extraordinary capacity for recovery and innovation. This contributes to the successful future of the country and its resilience in the face of any challenges.

In an interview with Prof Build, Lev Partskhaladze, president of the Confederation of Builders of Ukraine (CBU), told about the main challenges and key tasks of the construction industry and the nearest plans of the Confederation of Builders of Ukraine (CBU), which is the largest construction industry association.

✓ **Reconstruction of Ukraine continues: what has already been done, what are the priorities, how to rebuild at a time when the war is still going on?**

— By the beginning of August 2024, the Russians destroyed more than 220,000 Ukrainian objects with a total cost of 157.2 billion dollars, in particular:

- 200,000 residential buildings;
- more than 2 thousand schools;
- more than 1.5 thousand hospitals;
- about 1.5 thousand cultural institutions;
- more than 1.5 thousand bridges and other road objects.

And as long as the war continues, these numbers continue to rise. But reconstruction in Ukraine is already taking place where it is possible. Currently, dozens of design projects have

been developed for the restoration of both individual objects and entire settlements. Architects and engineers are actively working on creating projects that take into account modern requirements for construction, infrastructure and environment protection. They cover the rehabilitation of residential buildings, schools, hospitals, communal services and transport infrastructure.

An important aspect is the integration of the latest technologies and materials that allow more energy-efficient building and resistance to external influences. For example, the use of quick-mounting modular structures makes it possible to significantly speed up the rebuilding process, as well as reduce costs. In addition, attention is paid to creating comfortable living and working conditions.

Also, recovery is accompanied by the involvement of international partners and investors who provide financial and technical support. According to preliminary data, as of the beginning of August 2024, the following had already been restored:

- more than 10% of destroyed houses;
- about 30% of healthcare facilities;
- about 200 bridges and road objects.

The Confederation of Builders of Ukraine directly cooperates with some international partners to promote the future reconstruction of Ukraine. In particular, work is underway on the development of typical projects of health care institutions.

In general, CBU plans to implement such projects regarding educational institutions, kindergartens, security centers, hospitals, police departments, service centers and other social infrastructure.

✓ **What materials/resources are available in Ukraine, what is needed and in which quantity?**

— According to World Bank estimates, over the next ten years, Ukraine will need at least 486 billion dollars to rebuild the destroyed infrastructure. For example, more than 100 billion dollars are needed for construction materials alone.

90% of the necessary building materials can be produced in Ukraine: it will cost the country cheaper than imports, create additional jobs and increase taxes to the state budget.

For example, for one year of reconstruction, Ukraine will need 27 million m² of sheet glass for the total amount of \$165 million. At the same time, the only Ukrainian factory that produced glass was destroyed in 2014. Also, the list of building materials necessary for the reconstruction of Ukraine, in which the greatest shortage is felt, includes electrical distribution boards, concrete, cement, sheet slate, mineral wool and PVC profiles.





Currently, the state is trying in every possible way to stimulate the development of construction industry in Ukraine. In particular, a new law has appeared on industrial parks, where the production of construction materials can be located. It provides many benefits and makes production even more attractive, for example:

- non-payment of import duty and VAT on equipment;
- exemption from income tax for 10 years, subject to reinvestment;
- preferential tax rate on real estate and land.

This will help to attract foreign investors and will become an additional source in the recovery of the Ukrainian economy.

✓ **Speaking of the shortage of personnel, which specialists are currently lacking the most and how are companies overcoming this problem?**

— Currently, there is a significant shortage of personnel in Ukraine, including in the construction industry. For comparison, in 2021, 690,000 people worked in this field, but over the past two years, the number of employees has decreased by approximately 40%. This led to significant problems, in particular to slowing down of infrastructure and housing reconstruction. The lack of personnel is mainly related to mobilization processes, because about 1 million men joined the Armed Forces of Ukraine. Also, about 6 million Ukrainians became forced migrants and went abroad.

According to the forecasted expectations, during the period of reconstruction, Ukraine will face the need for a ten times increase in the volume of construction. Accordingly, this makes the issue of ensuring a sufficient number of workers extremely important.

The Confederation of Builders of Ukraine conducted a survey on the shortage of specialists in the construction industry. According to the results of the survey, drivers are currently in the greatest shortage among employees, since this position

was previously held by men. Also, companies lack project managers, foremen, installers, monolith builders, facade workers, electricians, technologists, rebar fitters, turners, machine tool operators, engineers, laboratory technicians, storekeepers, stampers, masons, welders, plasterers, tilers, crane operators, etc. It is clear that such a shortage of personnel has a significant impact on the project implementation period and causes large losses to companies.

Unfortunately, in order to compensate for the lack of workers, more than half of Ukrainian companies transfer the duties of scarce specialists to other employees. They also often replace construction crews, but rarely use the services of out-staffing or organization of training for improving the qualifications of employees.

10% of respondents are considering the possibility of attracting foreign specialists to cover the shortage of representatives of some professions, but so far such a decision is only in perspective, and its implementation is an isolated phenomenon.

✓ **How much has the demand for female workers in the construction industry increased?**

— The results of our research proved a significant increase in the role of women in the modern construction industry. Almost 90% of surveyed companies noted a noticeable increase in the number of women among their employees.

Today, women successfully occupy about half of the positions previously held by men. In 40% of companies, about half of the employees are women (40-60%). 20% of companies indicated that the percentage of women in their enterprises is less than 10%.

The Government of Ukraine has already started implementing some training programs for construction professions for women. They are an important step in the direction of overcoming the shortage of personnel in

The Confederation of Builders of Ukraine includes more than 800 members. It has representative offices in all regions of the country. CBU directs its activities to protect the interests of the market and consolidates the efforts of Ukrainian and foreign construction companies and international financial institutions for the reconstruction of Ukraine, participates in the development of regulatory and legal changes to simplify procedures and improve the investment climate for the post-war reconstruction of Ukraine. CBU is the only representative of Ukraine in the Federation of the European Construction Industry (FIEC) which includes 32 national member federations from 27 European countries. At the initiative of the CBU as part of the Task Force FIEC – EIC «Ukraine» — a working group that unites the entire European construction business for the future reconstruction of Ukraine – the Recommendations for the Future Reconstruction of Ukraine were developed.



the construction industry and increasing its competitiveness. The launch of specialist training programs ensures high-quality personnel training and expands employment opportunities for women. An important aspect of the success of these programs is the close cooperation of the state with the private sector.

✓ **What projects/collaborations are needed to effectively contribute to reconstruction?**

— For the successful reconstruction and development of Ukraine, it is already necessary to focus on several key areas:

1. Qualified specialists: training and retraining of personnel is an important condition for infrastructure recovery.
2. New modern construction technologies: the development and implementation of typical projects using the latest technologies will significantly speed up the construction process and improve its quality. This involves the use of energy-efficient materials and technologies, as well as the automation of construction processes.
3. Production of construction materials: creation of local production facilities for the production of construction materials will reduce dependence on imports, reduce the cost of construction and contribute to the economic development of regions.
4. Recycling (processing of construction waste): the implementation of a construction waste recycling system will help reduce the negative impact on the environment, as well as provide additional resources for construction. This involves the creation of recycling centers and the development of technologies for the reuse of materials.
5. Special construction equipment: investment in modern construction equipment will increase the efficiency of construction work and reduce its cost. This includes both large construction machines and innovative tools for small jobs.

These steps will allow Ukraine to ensure sustainable and rapid recovery after the destruction, as well as create a basis for long-term development of the construction industry.

In conclusion, I would like to emphasize that in these difficult times, business support and development is a necessary component for strengthening the Ukrainian economy. Preservation of jobs, stimulation of innovation, development of small and medium-sized enterprises are important aspects that contribute to the stability of the economy.

After the victory, the construction industry will be the main one in the reconstruction process, so it is extremely important to work now on the development of reconstruction projects and conduct negotiations with international partners. I believe that thanks to joint efforts, we will be able to rebuild a new, modern Ukraine according to the Build Back Better principle — better than it used to be, and create an even stronger, independent and prosperous state.





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- ✓ State construction regulations - legal regulation of issues.
- ✓ Solutions for sealing and waterproofing of underground structures (foundations, tunnels, bomb shelters, basement and semi-basement premises).
- ✓ Modern technologies and materials for repair and reconstruction of concrete and reinforced concrete structures.
- ✓ Update of construction regulations and standards taking into account the best European practices.

REGISTRATION



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Opportunities for international cooperation



Oleksandr Chervak,
CEO of the Confederation of Builders of Ukraine

The Confederation of Builders of Ukraine is the largest industry association in Ukraine, which represents more than 800 members (construction holdings, associations, unions) and has offices in all regions of Ukraine.

We know that CBU actively works in the international direction, can you tell in more detail?

Being the only representative of Ukraine in the European Construction Industry Federation (FIEC), CBU actively develops international directions of work, in particular, helping foreign companies find partners in Ukraine, get acquainted with needs and opportunities. We also have a special representative in Poland.

We relentlessly participate in the development of regulatory and legal changes to simplify procedures and improve the investment climate for the post-war reconstruction of Ukraine and we work to protect the interests of the market.

From the first days of the full-scale invasion, the CBU intensified cooperation with international partners in support and reconstruction of Ukraine. Thus, on the initiative of the CBU, the

Task Force FIEC — EIC «Ukraine» was created, which unites the entire European construction business for the future reconstruction of our state. In particular, the Task Force developed Recommendations for the Future Reconstruction of Ukraine.

Recommendations are necessary to ensure effective, high-quality and sustainable restoration of Ukrainian infrastructure. The document takes into account the best European experience, innovative construction solutions and ecological approaches. It is also aimed at promoting the attraction of investments, the creation of a transparent market and the development of new jobs in the construction industry.

You can view the Recommendations using the QR code:



And how does cooperation with foreign companies take place?

We see that foreign business is interested in cooperation with Ukrainian companies, so this year we created a special form of partnership — Strategic business-partnership of the CBU. This is a unique opportunity for companies that do not yet work in Ukraine, but want to get acquainted with the market, present themselves, and establish contacts. After all, this is an unfamiliar «playing field», and CBU helps foreign partners take the first steps.

CBU also develops cooperation with international organizations, foundations, associations. We have a number of signed Memoranda, in particular, with Polish, Italian, Finnish, South Korean, Swiss and other organizations, through which we implement mutually beneficial projects.

In general, there are various opportunities for cooperation between Ukrainian and foreign companies, including distribution of products, joint activities for the provision of services or production, creation of subsidiaries. However, it should be remembered that one of the main requirements is the absence of any communication, partnership or cooperation with the Russian Federation.

We thank international partners for reliable help and support in such difficult times for Ukraine. There will be great opportunities for partners in Ukraine after the Victory! That is why we are waiting for you in Ukraine and let's rebuild a new European country together!



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- To post the strategic business partner information on the CBU's resources: website, Telegram, Facebook, Instagram and LinkedIn

and much more

MORE ABOUT CBU

The Confederation of Builders of Ukraine is the largest industry union in Ukraine, representing over 800 members (construction holdings, associations, unions) and has a presence in all the regions of Ukraine, which is the only representative of Ukraine in the FIEC.

CBU is a modern, mobile, high-tech platform, which allows you to develop your business, build partnership, as well as take part in shaping the construction service market and progressive regulatory rules of the game for the efficient and high-quality reconstruction of Ukraine.

Our contacts:
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Licensing in construction in Ukraine for non-residents: HOW DOES IT WORK?



Olena Shtohryn
Managing partner Dictio, attorney, mediator

In August 2024, the Government of Ukraine announced that it had adopted a decision to allow foreign companies and organizations operating in Ukraine through permanent establishments to acquire the right to carry out economic activities in the construction of facilities by filling out a declaration.

Amendments approved by Cabinet of Ministers of Ukraine (CMU) Resolution No. 925 dated August 09, 2024 and amended by CMU Resolution No. 314 dated March 13, 2022 and relating to:

- objects: with medium (CC2) and significant (CC3) classes of consequences. The relevant rule will be in effect for the duration of martial law.
- subjects: non-residents (foreign companies, organizations) operating in Ukraine exclusively through permanent establishments. The norm's validity period is for the duration of martial law.

The entity can submit the declaration electronically — via the Unified State web portal of electronic services, via the Diia mobile application or in hard copy — at the administrative services center (with further transfer to the licensing services authorities via the Diia Portal).

The Resolution also provides for a list of information to be entered by a legal entity in the declaration for conducting economic activity in the construction for its successful registration:

- ✓ **Information about a non-resident:**
 - country of origin, legal form, complete and abbreviated name (if any), identification code according to the USREOU, location, contact phone number, e-mail address, surname, full name, patronymic (if any) of the non-resident's director or his/her authorized representative;
 - information on the non-resident's registration with the territorial bodies of the State Tax Service as a corporate income taxpayer (tax number of the non-resident, date of registration as a taxpayer, name, and identification code of the territorial body of the State Tax Service where the non-resident is registered);
 - Information on the registration of a permanent establishment of a non-resident with the territorial bodies of the State Tax Service (code according to the USREOU, date of registration of the permanent establishment as a taxpayer, date of registration as a payer of the single contribution to the obligatory state social insurance, name, and identification code of the territorial body of the State Tax Service where the permanent establishment is registered).
- ✓ **Information on the actual address (addresses) of the permanent establishment of a non-resident's foreign economic activity.**
 - ✓ **The name of the type of foreign economic activity carried out by the permanent establishment of a non-resident or information on changes to the license or previously submitted declaration.**
 - ✓ **Name of the permit(s) to be replaced or amended by the declaration.**
 - ✓ **A note stating that a non-resident operating in Ukraine through a permanent establishment is familiar with the requirements of the legislation establishing an exhaustive list of requirements for conducting activities subject to licensing and undertakes to comply with them.**

The Ministry of Economy of Ukraine developed the draft document. The prerequisite for such a decision was the need to implement projects planned under the Agreement between the Government of Ukraine and the Government of the Republic of Poland on extending a tired aid credit, dated September 09, 2015 (ratified by the Law of Ukraine No. 977-VIII dated February 03, 2016).

According to Article 1 of this Agreement, the Government of the Republic of Poland provides a loan to the Government of Ukraine to finance projects for the development of border road infrastructure, the arrangement of checkpoints on the Ukrainian-Polish border, and other projects to be agreed upon and financed under separate contracts between exporters from Poland and legal entities-residents of Ukraine.

The Agreement stipulates that the contracts should be concluded with legal entities with registered offices in the Republic of Poland, so only residents of the Republic of Po-



LICENSING IN CONSTRUCTION IN UKRAINE FOR NON-RESIDENTS

Information materials
prepared by Dictio
at the request of CBU

dictio **CBU** Confederation of
Builders of
Ukraine

Amendments approved by Cabinet of Ministers of Ukraine (CMU) Resolution No. 925 dated August 09, 2024, and amended CMU Resolution No. 314 dated March 13, 2022 and relating to:

1 objects: with medium (CC2) and significant (CC3) classes of consequences. The relevant rules will be in effect for the duration of martial law.

2 subjects: non-residents (foreign companies, organizations) operating in Ukraine exclusively through permanent establishments.



The norm's validity period is for the duration of martial law.



DECLARATION SUBMISSION

The entity can submit the declaration electronically — via the Unified State web portal of electronic services, e.g., via the Diia mobile application or in hard copy — at the administrative services center (with further transfer to the licensing services authorities via the Diia Portal).



WHAT INFORMATION MUST BE SUBMITTED IN THE DECLARATION?

- 1 Information about a non-resident
- 2 Information on the actual address of the permanent establishment of activity.
- 3 The name of the type of foreign economic activity / information on changes to the license
- 4 Name of the permit(s) to be replaced or amended by the declaration.
- 5 A note stating that a non-resident is familiar with the requirements of the Ukrainian legislation.



The prerequisite for such a decision was the need to implement projects planned under the Agreement between the Government of Ukraine and the Government of the Republic of Poland on extending a tired aid credit, dated September 09, 2015 (ratified by the Law of Ukraine No. 977-VIII dated February 03, 2016).

Full text of the resolution at the link
(in Ukrainian): <http://surl.li/mbejqz>

land, through their permanent establishments in Ukraine, are eligible to participate in procurement procedures and perform construction works in these projects. The cost of goods, works, and services of Polish origin may be at least 60% of the total contract value. The loan is used to finance 100% of the value of contracts for the supply of goods, works, and services from the Republic of Poland to Ukraine.

Such cooperation is a fairly common practice in European countries, and the terms and conditions established are those of export contracts, which must also comply with OECD (Organisation for Economic Cooperation and Development) guidelines and the provisions of the OECD Agreement.

Thus, foreign construction companies (including those of Polish origin) had to obtain the right to carry out economic activities in the construction sector (if they had not obtained it earlier) to implement projects in Ukraine.

Back in March 2020, the Cabinet of Ministers of Ukraine adopted two resolutions that marked the beginning of the reform of the state architectural and construction control system. At the same time, the regulations governing licensing in the construction sector were repealed, which blocked the procedure for obtaining construction licenses in the country (regardless of whether the company is a Ukrainian legal entity or a non-resident).

Before the reforms, foreign companies operating through permanent establishments were entitled to obtain construction licenses like Ukrainian companies.

Subsequently, with the beginning of a large-scale war in Ukraine, the Cabinet of Ministers of Ukraine adopted Resolution No. 314 of March 13, 2022, which simplified the procedure and enabled Ukrainian legal entities to obtain the right to conduct construction activities by submitting a declaration of economic activity to the licensing authority free of charge without the need to get a license for the construction for the period of martial law.

At the same time, the possibility of foreign companies, those who operate through their permanent establishments in Ukraine, obtaining such a right remained uncertain.

In addition to the Polish-Ukrainian intergovernmental project that helped draw attention to this problem and accelerated its resolution, such changes aim to improve Ukraine's investment climate.

Here are some basic recommendations from Dictio if you think to start business activity in Ukraine:

- Identify region for activity and potential local partners (prohibited work with individuals and organizations who in the sanction list, prohibited doing business activity on occupied territories)
- Identify form of business activity (LLC, Joint Stock Company (private and public forms), Representative office (non-permanent (non-commercial) and permanent representative office).
- Taxation
- Financing model and political risk insurance (political events covered under political risk insurance include expropriation, political violence, sovereign debt default, and acts of terrorism or war. Providers — DFC, MIGA, KUKE, GIZ).
- Find a project (examples: DREAM <https://dream.gov.ua/>, map of industrial parks https://geipp-ukraine.org/en/industrial_parks/, Public procurement in Ukraine <https://prozorro.gov.ua/>)
- Make legal due diligence and understand potential benefits and risks

A clear legal framework will allow professional foreign construction companies to enter the market (which was impossible after March 2020), open their permanent establishments, invest their funds and expertise in Ukraine, and participate in Ukraine's reconstruction projects.

Holding Company «Energomontazhventilation»: a company that combines experience and modern technologies



Today, HC «Energomontazhventilation» is a successful enterprise that unites several divisions to perform a full range of works: from design and implementation of construction and installation works to engineering support for buildings of any complexity, service maintenance and operation of internal microclimate systems. The company's staff consists of highly qualified specialists who are engaged in design, installation work, adjustment of ventilation and air conditioning systems, heating and heat supply. We talked about the challenges, new solutions and current problems of the construction industry with Mykhailo Ishchenko — candidate of technical sciences, general director of HC «Energomontazhventilation», Honored Builder of Ukraine and full knight of the «For Merit» orders of the I, II and III degrees.

✓ **How would you describe the current situation in the ventilation and air conditioning, heating and cooling market?**

— The situation in the market with a comfortable microclimate depends on the dynamics of construction itself in the country. Due to the war in Ukraine, the total volume of construction work as of 2024 has decreased to 43% compared to 2022. Accordingly, the services market has reduced the rate of its development and currently it can be characterized as «slow». Customers, investors, developers, the public sector are in a state of waiting. For example, if we consider the state sector in construction, there is a lack of sufficient funds for the active implementation of state projects. If these are investors and developers, here, first of all, there are issues of security and uncertainty in the war. After all, no one understands how much longer the war will last. As for us, today we work mainly with private companies that conduct certain projects.

✓ **To what extent are the price fluctuations on the services market today significant, in particular for design, installation work and systems adjustment? Has the cost of materials, components and equipment changed since the beginning of the full-scale russian invasion of Ukraine?**

— Over the past two or three years, there has been a sharp increase in the cost of construction. First of all, this happened due to the increase in the price of resources, plus exchange rate fluctuations, an increase in the cost of fuel and lubricants, and the energy crisis. Also, some suppliers include their risks in the cost of materials and equipment. The price of logistics has also increased. All these components greatly affect the cost of construction. For example, if we take it in percentage terms, then the cost of construction works at the current moment has increased by almost 50% compared to the indicator of 2022.

✓ **Today, everyone is talking about the shortage of personnel. And that's understandable. The specifics of your company's work require mostly the involvement men in the. How do you manage to keep staff?**

— If it were necessary to describe this situation in one word, it would be «disaster.» Today, 46 of the holding employees are at war. Among them are both technical specialists and installers. So, the question of keeping workforce is in the first place. And taking into account the fact that a large number of people left the country, and those who remained are constantly being searched by the territorial army recruiting centers — the issue is very difficult. Companies are trying to keep the team, but it is not so easy. For example, we have several contracts for the performance of works on critical infrastructure facilities. This allowed us to book 50% of the workers. But everyone understands that it is necessary to bet on the younger generation. At the same time, we are currently working together with KNUBA on creating an educational and production center for bachelors and masters. The purpose of training is to deepen and consolidate theoretical knowledge based on the modern production of HC «Energomontazhventilation».

Separately, I would like to dwell on the problem of personnel of the lower ranks. In particular, these are installers, fitters, welders, adjusters of ventilation and air conditioning systems, etc. Unfortunately, there is a lack of professional vocational schools in Ukraine, which deepens the problem of personnel. After all, such specialties are the basis of the construction industry.

Moreover, the personnel crisis is already forcing some companies to stop their activities. We can say from our experience that today a qualified installer of ventilation and air conditioning systems, a designer, an engineer, a fitter and a plumber are golden personnel.

✓ **Unfortunately, among the priorities today is the topic of shelters. Do you have projects in the portfolio of your company that are related to the construction or arrangement of shelters? If so, what problems did you encounter and what were the solutions?**

— First of all, we will give the definitions of the main concepts and the concept that determines the content of the question. On the basis of normative parameters for this type of objects, the main thing is to ensure comfortable conditions. Among them are moisture resistance, temperature, clean air with the necessary air exchange.

This year, HC «Energomontazhventilation» took part in the construction of three shelters: two for schools together with KAN Development and one shelter for a critical infrastructure facility. It would be desirable that such objects, when undergoing examinations, observe the implementation of all the necessary norms according to the DBN.

✓ **Let's try to characterize the general state of the construction industry and name the most «painful places». What changes should be expected and what are the company's plans for the near future?**

— It is known that the development of the construction industry is formed on three components: financial, production infrastructure and state support. Only under these conditions will the construction industry live and develop. Unfortunately, all builders feel the consequences of

the war, in particular, the increase in the cost of construction. Today, the prices of basic materials and electricity are rising significantly, and we can see that this trend will continue until the end of the war. Also, enterprises in the construction industry have a difficult situation with labor resources and working capital.

As for us, when the war started, I, as the head of the company, had a kind of shock. The first question is what will happen tomorrow? What to do with the team? How to help? But it was like that only at first. Then we gathered the basic essential team in emergency mode and started to issue orders. In this way, we managed to get the situation under control. During February-June 2022, we paid employees wages in the amount of 40%. At the same time, no one was working. Then, starting from July, work began on some objects. Currently, HC «Energomontazhventilation» has about 330-350 employees. We have a portfolio of orders, although not the same as before the war, but about 50% of it. We take an active part in the restoration of critical infrastructure facilities, we build schools and commercial facilities. Currently, the plant works in the usual format, but it is not possible to expand the services yet, there is not enough demand.

Regarding the «sore areas», there is currently a labor crisis in the country. It ceased to be the meaning of life and turned into a means of survival. Based on this, there can be no question of highly productive and efficient work. There is also no increase in the qualifications of employees, not to mention development and initiative.

In order to be motivated to work well, it is necessary, first of all, to estimate work well, develop interest in career growth, and develop innovations among colleagues and management. As a director, I often tell my department heads and executives that it is not enough to see an employee at work, you also need to know what they do in life. Before the war, we as a team tried to hold various events with outdoors trips and celebrated holidays as a team. In such conditions, people open up more and you get to know more about their lives outside the company.

Our company can be called an old-timer in the construction market of Ukraine. Our roots date back to 1977. Today, I believe in every person in our team, and I want to thank them and bow low for what they do, and most importantly, believe in the company.

Unfortunately, the saying that destruction and reconstruction go hand in hand is a really fair saying today. At the end of 2023, we finished the projects for the reconstruction of CHP-5 and CHP-6. Currently, we have a contract for the reconstruction of the Novodnistrovska HPP, we are performing a large amount of work on the construction of a shopping center in the city of Chernihiv, etc. Also, due to anomalies in the energy systems of Ukraine, a project was developed for shopping centers using gas cogeneration units. Cogeneration is an energy-efficient process that involves the simultaneous production of electricity and heat. It allows more efficient use of energy resources.

We still have a number of residential buildings with an increased level of construction quality in our portfolio of orders. We are building one of the largest car service and sales stations. Along with this, we are building two office centers. In general, in the portfolio of orders of HC «Energomontazhventilation» there are always objects of both the industrial and energy structure and objects of social purpose. So, let us not stop and bring the victory closer together!

The role of business in the restoration of Ukrainian cities — Volodymyr Karpliuk, CEO of Investment group «MOLODIST»



The restoration of Ukrainian cities is impossible without launching the economy and creating jobs — without this, we will not bring people back home, and communities risk losing them forever. In the third year of the great war, the construction industry has become one of the locomotives that holds the economic front of Ukraine,' said Volodymyr Karpliuk, CEO of Investment group «MOLODIST».

Investment group «MOLODIST» has been ranked among the top 10 most active companies in Ukraine by Forbes Ukraine and LUN, confirming its contribution to the country's reconstruction and economic recovery. We spoke with its CEO Volodymyr Karpliuk to find out about the mission and challenges facing the business during this period, as well as the principles of social responsibility that the company is implementing. Karpliuk will share his vision for rebuilding Ukraine, investment opportunities for community development, and the importance of supporting social projects such as the «Hackathon — 100 Ideas for Cities» architectural competition.

✓ **How do you assess the role of Investment group «MOLODIST» in the process of Ukraine's recovery, given that your company is in the top 10 of the Forbes Ukraine and LUN rankings as one of the most active construction companies in the country?**

— Investment group «MOLODIST» actively supports the recovery of Ukraine through the development of the region's economy and stable construction performance. As one of the first companies to return to work after the de-occupation

of Irpin, we not only gave the local economy the necessary impetus, but also contributed to the creation of new jobs. This has helped to boost related businesses, replenish local budgets and ensure stable demand for construction materials and services needed for reconstruction.

The Forbes Ukraine and LUN ratings, where «MOLODIST» was ranked among the top 10 most active construction companies in Ukraine, testify to our achievements and stable development. We have delivered more than 1563 apartments in several residential complexes, proving our ability to respond to various challenges even in crisis conditions. Our participation in the eOselya and eRestoration programmes contributes to the provision of housing for those affected by the war, maintaining investor confidence and helping our country to recover. In addition, our company has implemented a number of initiatives to restore not only Irpin but also other affected cities.

✓ **What do you see as the main challenges for business in Ukraine during this recovery period, particularly for the construction industry?**

— For the construction industry in Ukraine, the recovery period is a time of great challenges and change. The war has led to a shortage of qualified personnel, as many specialists have left the country or changed their profession. The unstable economy and low purchasing

power limit the demand for new housing, making it difficult to plan and implement projects. The shortage of materials and frequent power cuts create additional challenges, requiring adaptation of production processes.

The construction industry faces the challenge of not only rebuilding but also transforming the urban environment for the better. This involves implementing innovative solutions, attracting international experience and new technologies to create modern, comfortable and sustainable cities that should be built according to the Build Back Better principle.

✓ **What role does corporate social responsibility play in rebuilding Ukraine and how does your company implement these principles?**

— Social responsibility of business plays a key role in rebuilding Ukraine, and for «MOLODIST» it is the basis of our activities. During the defence of Irpin, our resources were directed at supporting the community: we provided fuel to the military and helped the families of the defenders. With the beginning of the de-occupation, the company initiated the creation of the Irpin Recovery Fund and the Irpin Recovery

Summit, attracting international funding for the community's recovery. In addition, we supported the Hackathon — 100 Ideas for Cities to develop projects for the reconstruction of public spaces in the affected cities, supporting the principle of «Build Back Better» for future reconstruction. We strive to become a driver of change so that Ukraine does not just rebuild infrastructure, but creates holistic spaces for living that will contribute to the development and growth of communities.

✓ **Why did you decide to support the architectural competition «Hackathon - 100 Ideas for Cities»? What were the most interesting ideas?**

— We supported the architectural competition «Hackathon — 100 Ideas for Cities» because we see the importance of rebuilding Ukrainian communities after the war and creating innovative infrastructure that meets modern requirements. The hackathon has become a platform for new ideas that will help cities rebuild with the future in mind. The most interesting projects were those aimed at developing education, sports and social services, including rehabilitation centres, sports stadiums and art centres. We believe that business can actively support such initiatives, contributing to the sustainable development of communities.

✓ **What advice would you give to other entrepreneurs who want to contribute to Ukraine's recovery?**

— The main thing is not to stop despite the difficult times and keep working. This is the only way we can overcome the difficulties and rebuild our country. My advice to entrepreneurs who want to contribute to Ukraine's recovery is to invest in the development of our economy. Create jobs, support local production, which will stimulate economic growth. It is also important to promote social projects such as housing, education and healthcare. Supporting such initiatives will not only help the country's recovery, but will also lay the foundation for a stable future for all communities.

✓ **How do you assess the current state of business in Ukraine in the context of recovery from the crisis?**

— The current state of business in Ukraine after the crisis is a period of great opportunity. The construction industry has become one of the locomotives that holds the country's economic front. Businesses continue to create jobs and provide stable tax revenues that support important social programmes and the country's recovery. Businesses that keep going inspire others to move forward and contribute to Ukraine's recovery. Therefore, it is important not to be afraid to invest in the country, engage international partners and expand national networks, adapting quickly to changes.

✓ **Who, in your opinion, should finance the restoration of Ukrainian cities?**

— The restoration of Ukrainian cities should be a joint task of the state, business and international partners. The government must provide the necessary institutional framework, stable policies and favourable conditions for investment. Business is a key driver of this process, as it generates budget revenues, and the construction sector, in particular, also implements infrastructure projects. International partners can provide the necessary financial resources through loans, grants and other forms of support to enable large-scale recovery projects. Only a comprehensive approach, with each sector contributing to the other, can ensure the sustainable and effective recovery of Ukrainian cities.



Lyubov Dudnyk: how to be a leader when the sirens don't stop



«Attention! Air alarm. Proceed to the nearest shelter» — our conversation with Lyubov Dudnyk, the head of the «Diver LTD» company which specializes in production of Koutex™ polymer materials and polymer floors, is periodically interrupted by warning signals from a smartphone. A few seconds later, sirens start sounding outside the window.

However, we do not stop the dialogue: we continue to openly discuss bribery in «high offices» and dream of victory, we share pains and hopes, personal stories and, surprisingly, plans for the future. Everything is like in modern Ukrainian realities: when enemy missiles are overhead, it is impossible to put life on hold, to cheat and postpone something for later.

Woman, business, war, Ukraine. How to manage a company in such a coordinate system?
More on that – below.

✓ Let's go back to the last century with the help of an imaginary time machine. How did the company's history begin?

— The year 1995 is on the calendar. 8 men (divers by profession) decide to create the company «Diver», which would specialize in repair work of surf zones, restoration of bridges, cleaning of ship bottoms, production of coatings for oil and gas enterprises. Sounds like a great idea, doesn't it?

However, let's remember what the situation was in the country at that time. Ukraine recently gained independence, only recently survived the stormy 90s. The government seems to be «pro» restoration and development, but beautiful words are not transformed into real actions, there is a lack of political will. Support for entrepreneurs from the state is zero.

Therefore, the company «Diver» gradually moved away from the initial idea and reoriented itself to the production of poured floors. The debut project was a poured floor for the «Combi» store in the capital with an area of about 50 m².

Occasional orders, small volumes — in this format «Diver» worked until 1997, when our life paths accidentally crossed. At that time, I was an employee of the advertising department of the «Navigator» magazine, I scheduled a meeting with the director of the «Diver» company to offer placement of advertisements for poured floors (by the way, that's when I heard about them for the first time).

As it turned out, there was no budget for advertising: neither the manager nor the team understood business strategies and promotion. They focused their efforts on quality performance of work processes, eager to work and earn. They lacked a catalyst — a large-scale project. And such an opportunity happened thanks to my help.

Once, at a business meeting with the administration of one of Kyiv's districts, the topic of floor manufacturers came up. We were looking for a worker for the chocolate shop of the factory named after Karl Marx (now — ROSHEN) facility with an area of 2,200 m²! I immediately understood that this was the one happy match. I connected the customer and performers from «Dyver», effectively fulfilling the role of project manager.

Everyone was satisfied with the cooperation: the customer with the quality and price, the executor with the replenishment of the portfolio, I — with new prospects, as I received an offer to join the company and work as a manager on a permanent basis.

At first, I hesitated a little, but in the end I agreed, because the company had a good base, experienced employees, equipment, and excellent prospects. And for a successful transition to commercial channels, only the business component, advertising, and promotion were not enough. What I understood just perfectly.

✓ From the manager to the head, co-owner: which personal transformations you had to experience along the way?

— All of us, the entire team of «Diver» was changing: some employees went into freelance, some radically changed the type of activity and resigned, new faces and structures appeared, namely a marketing department, a commission for training in practical nuances of working with poured floors. For the marketing department, I attracted fantastic specialists — former employees of the «Kyivkhimvolokno» plant. I had worked at that company for 16 years, so I had no doubts about the experience and qualifications of my former colleagues. Looking back, it is difficult for me to clearly answer what exactly we were doing at the time: improving the company or (more likely) fixing it from scratch?

At a certain stage, the realization came that it was time to scale up. The director of «Dyver» offered me to become a co-owner and head of a new company — «Dyver LTD». To be honest, I hesitated for a long time. I was not certain that an employee for whom the company is her life will be able to successfully combine such functions as the performance of operational tasks and the management. However, I dared to try. I gradually got used to the new role, adapted. The marketing department and production at that time were already functioning independently and did not need constant control. So, there was a little time for me to «be a director» (I must admit, a quite tough one).

In parallel with the formation of personnel, the vector of development also changed. The range of our services included additionally underwater works, provision of supplies of non-combustible materials to nuclear power plants. There were more and more projects. Funds and opportunities for development too.

The next fateful stage is the division of the company into production and services. The created research and production enterprise was engaged in experiments, development of innovative materials. I clearly outlined our goal: if a new foreign material appears on the Ukrainian market, we should create an even better one, more stable, safer. Not a month went by without us putting something into practice or improving it. Thanks to this, we became a Ukrainian manufacturer with a very high-quality product that will serve not only customers, but also their grandchildren. I can compare KOUTEX with an extremely tasty candy, which remains to be wrapped in a beautiful package (work on the image).

✓ **Sometimes business activity in Ukraine is half-jokingly called «Fort Boyard» and a game in which the rules are constantly changing. What challenges did your company face?**

— Let's recall the key milestones in the history of independent Ukraine. Roughly the same stormy events took place in our industry. Uncertainty, vouchers, certificates, unscrupulous competitors, extortions, economic failures, booms, mistakes, conflicts, crises — not a single day was easy. The appetites of political elites grew exponentially from year to year. It was not for nothing that a joke arose that every old government, looking at the new one, says: «Could we do that, really?».

Perhaps it was a little easier to work during the time of Leonid Kuchma, because there was a program to support domestic manufacturers: it was allowed to choose domestic materials, even if their cost exceeded foreign ones (within 15%).

The company has always «raked out» independently, without state support, developed «schemes», patrons. I am proud of the fact that we never followed the wrong path of illegal bargains but focused our efforts on improving the properties of materials, improving technologies, and the practical skills of specialists. They tried to work as efficiently as possible, to earn decently, so as not to depend on anyone, not to be afraid, not to look back. In this sense, we are probably unique: for 30 years of activity, our company has not received any subsidies, preferences, or a single penny from the state. They achieved everything with their own daily work — and I am satisfied with it.

Another difficulty is that, unlike in Europe, there are no perfect projects or perfect concrete in the segment of poured floors in Ukraine. Somewhere it is bumpy, somewhere it is oiled, etc. And the customer asks to make it smooth. In order to achieve the desired result in such situations, we have developed a material for «treatment» of concrete. Firstly, with its help, we restore the concrete to an adequate technical condition, only then apply a polymer coating.

What is given to me the most difficult, to which I cannot get used to, is total corruption. No matter how good the materials or the sample on the site, or the proposal of the contractor, the interest of the people involved in making the decision in «kickbacks» overrides any possibility of fair competition during tenders.

During the bombing of Kyiv region, my husband spent 3 days in line at the military recruitment center to join the war as a volunteer. My thoughts and my soul are there, at the front, with the boys. That's why I don't want and can't give a bribe, I won't dare. I would rather send these funds to the needs of the Armed Forces.

✓ **How do you assess the market of polymer poured floors in Ukraine and the world? What are the advantages of polymer poured floors? For which objects is this an optimal solution?**

— At the moment, there is a boom in Ukraine in this segment: both demand and supply are insanely high. Large-scale projects are implemented: 20, 30, even 60 thousand square meters. Only a lazy person does not make poured floors.

The reverse side of the coin — the number of frauds, unscrupulous producers without quality certificates is increasing; companies that have not left the Russian Federation and are recognized as sponsors of terrorism continue to operate unhindered.

Low public awareness of the types and characteristics of poured floors complicates the situation and plays to the advantage of frauds. Cases when concrete is covered with dyed water instead of polymer are quite common. We expect a boom of orders for processing such works in 3-6 months.

Polymer poured floors are currently out of competition among solutions for industrial facilities and are gaining popularity as an option for private homes. This is the optimal floor option in many industrial premises (plants, factories, warehouses, parking lots, hangars, production shops, logistics centers, boiler rooms, machine rooms, laboratories); commercial spaces (shops, shopping centers, offices, pharmacies, coffee shops) and private houses/apartments (kitchens, corridors, basements, verandas). The poured floor can be combined with heat, taking into account the technical nuances (for example, the screed must be made without plasticizers, otherwise the «smallpox effect» will appear later).

Polymer coatings open the door to the limitless space of stylish and creative design solutions. Covering with acrylic chips is chosen for schools, kindergartens, offices, because it is durable and visually attractive. In private houses and offices, microcement, texture, and loft floors are often used.

Koutex® polymer coating is a structure consisting of several layers of a polymer composition sequentially applied to a concrete or other base.





The basis can be: concrete screed, cement-sand screed, metal, screeds made of dry construction mixtures (Cerezit, Tomzit, Uzin, etc.), fiberboard (DVP), chipboard (DSP), board of finely dispersed fraction (MDF), asbestos-cement board, waterproof plywood, dry wood, metal.

Key advantages of polymer coating:

- strength;
- durability;
- safety (follows sanitary and epidemiological standards);
- absence of dust (relevant for clothing workshops);
- resistance to cracking, abrasion, temperature changes, effects of deactivating formulations, mineral oils, salt solutions (service stations, aircraft hangars, production involving the use of acids, nuclear power plants, thermal power plants);
- the ability to withstand heavy loads (parking lots, sports facilities, etc.);
- antistatic properties (rooms where medical equipment is placed or car diagnostics are carried out);
- anti-slip (if necessary);
- aesthetics.

Our assortment includes epoxy, epoxy-polyurethane and polyurethane-cement coatings. There is also a wide range of decorative coatings for private houses or special coatings, in particular: chemical-resistant (XC), antistatic (ACT), non-combustible (Г1) and chimankera, which, by the way, are significantly cheaper than foreign ones. There are also materials for work under water to strengthen bridges and dams. We offer a polymer-gravel mixture — PGS, reinforcing/armoring screeds for pothole repair of concrete and asphalt concrete road surfaces. I also want to say that our specialists are always ready to advise and help in choosing the right solutions for any technical tasks, even if they are complex and non-standard.

✓ **Your portfolio includes more than 9,700 completed objects, 1.4 million square meters of built-up space. At which locations in the capital (and not only) is it possible to test drive a polymer coating from your company?**

— Samples of our work can be seen in the Clinic of St. Luka in Lviv, in Kyiv — in the reception department of the Central

Military Hospital in Pechersk district, Okhmatdyt Hospital, Smart shopping center Plaza Polytech, MIDGARD SCHOOL, at the «Antonov» plant, at the parking lots of BC Leonardo and OBOLON RESIDENCES residential complex.

By the way, during the time of Leonid Kuchma, whom I have already mentioned, the Presidential Administration (walls, ceiling, furniture, etc.) was decorated exclusively with Ukrainian materials. It is nice to note that the poured floor was manufactured by us, TM «Koutex».

✓ **Sometimes you can hear that «sport is outside of politics/war», «culture is outside of politics/war». What about business? How would you like to see Ukraine in the future after the victory?**

— Back in 2014, when I clearly and categorically began to express a pro-Ukrainian position in social networks, I was called a «radical Bandera supporter». Yes, I really

want to hear Ukrainian language, Ukrainian song in Ukraine. I adore Ukrainian clothes, the creativity of the dance ensemble named after Pavlo Virskyi, Petrykiv painting. I dream of seeing the people's sincere love for their country, hard work, and devotion. I very much respect and share the views of the late Irina Farion.

Once we received an order from the military. When I called to clarify the details and heard the answer in Russian, I could not contain my indignation: «Do you work in the Ukrainian headquarters or in the headquarters of the Russian Federation?» And immediately the Ukrainian language was heard.»

But is this radicalism? This is love and respect for one's country, for Ukraine! And I'm proud of it!

When you love your home (in the global sense, the Motherland), you try to make it better. Professionally, throughout my life I created, developed and promoted Ukrainian. I made efforts to establish a powerful in-house production of building materials, and to make their quality better compared to foreign analogues, more competitive.

What is definitely worth working on in the future is education, medicine, saving the economy. I dream that the level of education and medicine in Ukraine will be impressively high, and services will be available to every Ukrainian, regardless of wealth. So that officials stop betting on international financial aid and stop pressuring entrepreneurs, and create normal conditions for business activity. And then the business of Ukraine will begin to develop.

✓ **Which sphere, in your opinion, is undervalued in Ukraine and could become a driver of economic growth?**

— Our unused opportunities are tourism. For 10 years, I had regular business trips to Ukraine, traveled all over it. I was repeatedly convinced how picturesque our Motherland is, so picturesquely described by Lesya Ukrainka and Taras Shevchenko.

In design of projects aimed at development of tourism, the restoration of historical objects, I see opportunities for economic growth. The state could earn millions, because we have something to show, something to impress.

Sometimes I think about the idea of creating a program for children, within the framework of which they would have the opportunity to travel around Ukraine; saw her greatness and

beauty; would love the Motherland as I love it; sought to stay here and build the state, and not seek happiness abroad.

Ukraine is not only the geographical center of Europe, but also the center of mental, cultural, political and scientific heritage. We are the first and only nation in the world that went to the Maidan against the government, not for material benefits, but for human dignity. We have a «people's system»: people are stronger than the government, people set the vector of movement, lead forward, and the government lags behind. A good example is the beginning of a full-scale war. At the moment when the authorities did not believe in the country's ability to repel the enemy, ordinary people rose up: that is, they came to the aid of the Armed Forces, took up arms, began to fight and volunteer.

We are colorful, creative, brave. It amazes, it inspires, it attracts the attention of the world.

✓ **Do you manage to maintain a balance between work, hobbies and personal life? How do you charge your internal battery?**

— Work-life balance is not about me, my work is my life. It has always been like that. Until 2022, the imbalance was partially balanced by my husband, thanks to his support I managed to concentrate on professional tasks as much as possible. After the Russian invasion, he joined the fight at the front. So currently work processes practically do not stop, they distract from anxious thoughts.

My source of positivity outside of work is my daughter and son, a private house with a garden, that I visit regularly. I grow apples, tomatoes, cucumbers — these simple activities are a lifeline for me. I placed a playground next to the house. Life is constantly raging there: children of all ages gather to play, noise, hum and cheerful laughter can be heard. Pure joy. Sometimes I joke that I don't have grandchildren yet, but I have already built a playground and set up a kindergarten.

My hobbies include psychology and numerology. At one time, knowledge in these areas helped me in selection of per-

sonnel, communications in the team. I have been following the political situation in the country for many years, monitoring legislative changes and trends. I distinguish politicians «by sound» — by their voice. So, you can say, this is another hobby of mine — political (laughs).

✓ **Lyubov Stepanivna, you can be compared with Margaret Thatcher, Golda Meir: strong, beautiful, intelligent, independent, wise, successful. What advice would you like to give to the young generation of entrepreneurs?**

— The best advice is not to give advice. Moreover, everyone goes through their own unique path, with their own mistakes, victories, difficulties of choice.

What is equally useful for everyone is to study hard, to absorb knowledge as much as possible, not to carry it on one's shoulders. This is a future treasure that can be used, improved, and increase income.

I also wish everyone who is just starting their professional life to choose the right direction of movement. Work honestly and with dignity so that you are not ashamed of yourself. Despite the forced stops, unexpected turns, go towards desired destination. No matter what happens, believe in yourself, pick yourself up and move on. There is no success without obstacles.

And most importantly, love Ukraine sincerely!

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Pavlo Kachur: «Cement industry: role in the recovery of the country and the development of the economy of Ukraine»



The importance of cement in the reconstruction process cannot be overestimated because it is the basis for construction of residential buildings, infrastructure and industrial facilities. This gives reason to some experts to predict its deficit at the moment when the country will need it. If the domestic cement industry is ready to ensure stable and efficient cement production during the reconstruction of the country, told Pavlo Kachur, head of the Association of Cement Manufacturers of Ukraine «Ukrcement».

✓ **Today there are several “horror stories” about the cement market in the construction industry. One of them is that during the future reconstruction there will be a catastrophic shortage of cement, but there is always an alternative in form of imports. What is your opinion about this statement?**

— Let's start with where the “horror story” that Ukraine will not have enough cement when the time for reconstruction comes came from. There is a very good study conducted by specialists of the “Institute of International Economic Research” and the State Enterprise “Ukrpromzovnisheksperityza” with the assistance of the USAID Project “Economic Support of Ukraine”. It concerns the ability of the domestic construction materials

sector to meet the needs of the post-war reconstruction of the country, including the capabilities of the cement industry. Based on the data obtained, two key assumptions can be identified with a very low probability that they will come true. The first is that no one will count the money during the reconstruction, there will be as much as needed, and the second is that the reconstruction will last three years. Then the required amount of cement (which is approximately 35 million tons) was divided by three years and got a figure that exceeds the one that cement manufacturers claim about the current production volumes. At the same time, there are many people who are waiting for an opportunity to develop their business through import sales. Unfortunately, private interest is not always intertwined with public interest, and these people are ready to sacrifice everything for the sake of making money. So, it is quite understandable why the topic of imports and the inability of the cement industry to meet the country's needs in the future is often “inflated” such as: “there won't be enough, so let's import now, because later there won't be enough.”

Contrary to such approaches, we believe that money for reconstruction will be given out very hard, and the reconstruction itself will last longer than three years. It is also worth considering that the research was done at the end of 2022. Firstly, there was much less destruction than, for example, today. Secondly, let's remember that we all had hope for a quick end to full-scale war and start of reconstruction. Of course, over time we come to understand that the previously planned processes will not happen as desired. They will be much more difficult and longer. For example, it is worth looking at the experience of the recovery of countries after destruction due to wars and armed conflicts. Let's take the Balkan countries. First of all, demining takes place. The main funds are directed to this. In parallel, the rehabilitation of people returning from the frontline takes place. As for construction, it is important to plan step by step what, when, where and how will be built. And taking into account the gradually increasing pace of consumption of building materials, the reconstruction process will reach its peak in the fourth year from the beginning. At the same time, it is equally important to have an understanding of how much money the state can allocate to reconstruction. So, if we are guided by optimistic forecasts and assume that Ukraine will have about \$35 billion every year, then only 12.6 million tons of cement will be needed. And this is quite real for the industry.

Of course, there is a long-term option, when the reconstruction will go in parallel with the investments. For example, one of the possible scenarios is that investments will come to reconstruction not in the form of money, but through the creation of new jobs and enterprises by private capital. Accordingly, then there will be a need for additional cement consumption.

So, taking into account all possible options, the members of the Association already have several solutions today to avoid a situation with a shortage of cement. For example, if we reach 10.5 million tons of consumption, the industry is ready to modernize and expand existing production. There are already plans, calculations, even more — one plant has made a pre-order for equipment. That is, the cement industry is ready to mobilize its resources in order to fill the market with products.

We understand that the question here is not about making a profit from the sale of cement, it is much deeper. If the money for reconstruction goes through imported materials, it will not

leave a trace in the economy of Ukraine. Everyone should understand this: every hryvnia invested in cement production will generate an additional 4-5 hryvnias in the economy. Therefore, it is quite important that during the reconstruction of the country, only domestic building materials are used, which will leave added value in the economy of the state. And they will also allow to receive wages and improve the well-being of Ukrainian families. Otherwise, if reconstruction is going on and people do not have jobs, then they will not stay to live in Ukraine, and even more so, those who temporarily left will not return.

Going back to the question you asked, I don't understand people waiting for imports today. Will it happen? It is quite possible. Friends during the war must be friends during reconstruction, and opponents must be opponents during reconstruction. I believe that countries that either took a neutral position or openly supported the aggressor country have no moral right to earn from reconstruction.

Unfortunately, the reconstruction has not yet begun, and we are already faced with speculation. A clear example is talk about "cheap" imported cement. For example, we conducted an analysis of 2020, when slightly more than 1 million tons of such cement entered the territory of Ukraine. But for some reason, not a single square meter was sold on the real estate market at a discounted price. That is, this fairy tale that cheap cement imports provide "cheap" housing or "cheap" cement-concrete roads is a simple cover. The consumer receives square meters at the usual market price, and the state remains in the red, because the jobs are created there, the tax is paid there, the added value is also there. And we can draw such a parallel in relation to any import, if, of course, it is not a critically important import.

✓ **Following up the first question: what "homework" should the "Ukrcement" Association and producers do in the near future in order to be ready for the future load?**

— Currently, each operating cement plant has investment plans for several scenarios. Among the signals that should notify about changes in the market, consumption is of primary importance. So, in 2023, the market revived a little, and domestic consumption was 6.4 million tons. If this indicator reaches the mark of 10-10.5 million tons, we will see the first investment projects in clinker kilns. But here it is worth considering that such construction can last a little more than a year — 14 to 17 months. However, until the market starts to pick up, we will have two additional kilns.

The next step is the modernization of production itself. Today we have several spare kilns. And although they are not dry, but wet, but they can be used as additional capacities. Of course, we cannot predict exactly how the situation will develop, because we do not know all the factors that may arise, but today there is confidence that the industry is able to cover 100% of the needs of cement.

In my opinion, there are doubts that Ukraine will need 13.6 million tons in the very first year of reconstruction, which everyone is talking about. According to our estimates, the annual consumption will amount to 12-12.5 million tons of cement for three years. During the calculations, we took into account a number of indicators, in particular, the United Nations indicator which shows how much cement is consumed, where there is active development per capita.

Consumption in 2021 reached a maximum level of 260 kg per capita. With cement consumption at the level of 350 kg, the UN includes such a country in the list of developing countries. If Ukraine reaches the indicator of 400 kg per capita, the total consumption will be at the level of 12 million tons. I would like



to add that we have serious potential reserves for increasing cement production. First of all, this is the plant in Balaklea. Yes, it is damaged, but let us agree, it is cheaper to rebuild the plant on existing infrastructure than to build it "in an untouched field". The situation is similar with the Kramatorsk plant "Pushka". In addition, there are cement plants in the temporarily occupied territories — two plants in Donetsk region and one plant in Crimea.

It is also quite possible to launch new cement factories. That is, the cement industry has all the possibilities to meet the needs of the domestic market.

However, when assessing the need for construction materials, one should also take into account the ability of construction companies to fulfill orders. It is no secret that there is already a shortage of personnel in Ukraine at all levels. Therefore, there is no guarantee that the personnel issue will be resolved after the end of the war. Rather, it will worsen even more.

A real breakthrough for us can be the period when we join the procedures of the European Union and receive funds for investment projects. We have to be ready for that too.



✓ **What risks do you see?**

— With regard to risks, in my opinion, it is worth highlighting here, first of all, human capital, which is capable of implementing reconstruction programs. The second is financial opportunities. I do not think that the funds will be in the amount that we imagine. Therefore, it will also be a deterrent to construction volumes. Accordingly, then there will be enough building materials that the market can accumulate, at least cement. The main task is to ensure that these materials are of domestic production.

✓ **Another topic that is actively discussed is the threat of monopolization of the cement market, which can cause an increase in the cost not only of cement itself, but also of concrete and construction in general. Is that so?**

— The cement industry belongs to those industries where there are not a large number of companies on a single local market. This is the case all over the world. This is a rather capital-intensive, material-intensive and technically complex process. That is, it is a production where you need to have significant capital to start. Therefore, if someone wants to open a new production, it is quite possible. The question is another: are they ready for such a difficult and complex investment?

The competition in the Ukrainian market is very tough. The consumer does not see it, but believe me, it is there, and quite a lot. Clear evidence of this is the presence of products from all, without exception, manufacturers in every region of Ukraine.

Regarding the changes that are currently taking place in the cement market and the issue of purchase/sale, I believe that it is worth waiting for the decision of the Antimonopoly Committee. Yes, there is an application from one company to sell its enterprise, and another company wants to buy it. But only after the decision of the Antimonopoly Committee is conducted, we will be able to see what potential threats there may be to the market and how to neutralize them.

✓ **What should be the governmental policy to save the country's economy now and start a recovery after victory?**

— I believe that the most important task is to ensure that reconstruction becomes an impetus for the country's growth. This should be our common goal. And when I am asked what tasks I see for the authorities, the answer is as follows: first of all, to rely on our own manufacturer, and secondly, fair procurement and tender procedures. That is, to implement an honest process of reconstruction and to involve our own production in it as much as possible, so that the economy of Ukraine receives the greatest possible effect from the process of reconstruction.

✓ **Of course, we cannot ignore the personnel issue. Today this is a significant problem. After all, everyone understands that the government must now make the right/non-standard decision, perhaps even sacrifice something, in order to save the country, including through mobilization, and preserve valuable professional personnel. What is your opinion?**

— This is quite a difficult question. On one hand, it is necessary to preserve the country's economy, and on the other hand, to protect and liberate the temporarily occupied territories. Here we should act within the possibilities that exist today. However, a compromise between the needs of the front and the needs of the economy is necessary. I see the solution in the fact that the mobilization concerns first of all

those who do not work at all. And now the mobilization of those who actually work is taking place.

✓ **According to the results of 2023, an increase in the consumption of cement with additives was recorded in Ukraine. Is this a signal that Ukraine is actively moving towards reducing CO2 emissions or are there more economic components?**

— Yes, now the world is actively fighting to reduce CO2 emissions. In the cement industry, it is the so-called "clinker factor" during cement production that shows how much CO2 we threw into the air. That is why science is currently actively working to maintain strength through additives but reduce the clinker content in cement. This is a global trend that is also followed in Ukraine. Therefore, yes, we have also increased the consumption of cement with additives. At the same time, it is worth noting that most construction companies actively use such cement. Moreover, more and more often, construction companies began to interact with factories in the matter of producing a batch of cement according to a certain recipe. Of course, it is not necessary to exclude the fact that cement with additives also has economic advantages.

✓ **Does this environmental trend apply to ordinary consumers?**

— Unfortunately, we still have a gap in awareness about the correct consumption of cement. That is, quite often an ordinary consumer buys cement for his needs with inflated indicators. Although it would be possible to really save money and not overpay for an unjustified strength brand. Yes, many people now use advice on the Internet, but let us agree, they are not always correct. We, as the Association of Cement Manufacturers in Ukraine, are actively working on this issue. In particular, development of "Cement cards" that regard the composition, characteristics, properties and use of cements produced according to state standards and EN. This should increase the culture of consumption and avoid many mistakes when using cement. There are also plans to develop a YouTube channel with tips and explanations.

✓ **It is difficult to make forecasts at the moment, but how do you assess the future prospects for the cement market?**

— The forecast for cement consumption for 2024 is quite restrained. We had a noticeable jump in 2023. 7.4 million tons of cement were produced. If we reach 8 million tons this year, it will be a very good result. After all, we all have a difficult summer in terms of electricity.



Preferential banking programs for veterans: SUPPORT FOR DEFENDERS IN 2025



In 2025 the majority of commercial banks in Ukraine will actively develop "veteran-targeted" credit programs which will give the warriors possibility to get loans at rates 1-2% lower than market rates. Such an opinion was expressed by Serhii Mamedov, Vice President of the Association of Ukrainian banks, chairman of the board of GLOBUS BANK.

According to the expert, for several months some joint-stock banks have been «testing» special deposit programs for the military, the rates for which have been increased by an average of 1%. In addition, the practice of creating separate card products for veterans with a variety of cashback programs and free service will soon be actively spread.

«The appearance and development of the direction of support for veterans has several main tasks. Firstly, it is the duty of civil population to thank the defenders of Ukraine for their loyalty and protection. Secondly, special conditions for veterans can become one of the effective mechanisms for their social adaptation and return to a peaceful life. And, thirdly, this is a real opportunity to significantly increase citizens' interest in banking products,» the banker emphasized.

The expert predicts the emergence of several major banking programs designed specifically for the needs of veterans. In particular, these are mortgage lending programs and loans for start or development of one's own business.

According to him, depending on the amount of the first installment and the term of the loan, mortgage rates will be reduced to 15% per annum. At the same time, average loan rates for veteran entrepreneurs may drop to 16% per annum.

An important area of support for veterans will be the practical implementation of the Charter on financial inclusion and reintegration of veterans, which has already been signed by about

30 banks of Ukraine, and which is supported by the National Bank of Ukraine and the European Bank for Reconstruction and Development (EBRD). The goal of the Charter is to increase the resilience of human capital in Ukraine by working together to transform the financial sector to make it more accessible to war veterans — both customers and employees.

According to the signed document, banks undertake to make financial services more accessible and inclusive and equal to other citizens. In particular, the Charter provides that banks will try to provide inclusive conditions for veterans.

«In the conditions of war, inclusion takes on new meanings, because every defender who has been injured must have convenient access not only to state institutions, pharmacies, public municipal transport, but also to branches of commercial banks. But this is only part of the necessary measures: banks will tend to gradually equip their branches with special modified means and devices, etc. And the process of creating fully inclusive bank branches will only gain momentum,» the expert emphasized.

Serhii Mamedov said that starting from November, Globus Bank will launch a **comprehensive program to support war veterans, «Banking for Veterans»**. According to it, veterans will receive more favorable offers when placing funds on hryvnia deposits, as well as preferential credit terms for developing their own business and purchasing housing.

In particular, the expert said that when placing funds in hryvnia deposits for a period of 1 year or more, veterans will be able to receive a rate of up to 14% per annum, which is currently the maximum on the market.

Regarding loans, the bank introduces special conditions within the framework of the «Affordable loans 5-7-9» program. According to these conditions, veterans will be able to take a loan to purchase the main means of conducting business (special transport, various production equipment, etc.) at 5% per annum, instead of at 7% per annum (2% less than provided for by the program).

At the same time, «Banking for veterans» predicts that the rates for «commercial» mortgage loans, depending on the repayment period and the initial payment, will be reduced by an average of 1-2% — to 5-15% per annum. And its feature will be the absence of restrictions on the «age» of the building in which the veteran plans to purchase housing.

In addition, in the coming month the bank plans to release a «veteran» payment card with free service and additional exclusive services, including increased interest on the balance.

The banker predicts that under favorable economic and «military» circumstances, in 2025 the share of «veteran» loans in the loan portfolios of banks may total up to 5%, and in 2026 — up to 15%. At the same time, the share of preferential deposits next year may exceed 7% of the total number of new deposits, and in 2026 it may exceed 20%.

«For the period from 2025 to 2027, the «veteran» bank programs are able to cover from 2 to 3 million of our citizens who stood up for the defense of Ukraine. After all, banks are able to help solve a number of urgent problems of veterans: from the opportunity to become the owner of a dream apartment, to starting and developing their own business. Even in conditions of economic growth and improvement of credit conditions, veterans can count on the fact that banks will keep preferential credit terms and higher deposit yields for them,» Serhii Mamedov concluded.

OLEKSANDR KASCHENKO: «IT IS IMPORTANT NOT JUST TO RESTORE, BUT ALSO TO SUPPLEMENT THE ENVIRONMENT WITH INNOVATIVE SOLUTIONS»



Architecture has always been a reflection of social values, aspirations and historical stages of development. In the periods of post-war reconstruction, architecture acquires special importance, becoming an important tool not only for the restoration of the destroyed, but also for the revival of cultural identity, social integration and sustainable development. Oleksandr Kashchenko, Dean of the Faculty of Architecture of the Kyiv National University of Civil Engineering and Architecture, spoke about the main challenges facing the community of architects today and possible ways to solve them.

✓ How do you see the role of architecture in the process of reconstruction after the war and in sustainable development of cities and communities?

— Architecture is the material and spiritual heritage of humanity, of every country and region, which dialectically combines history, modernity and the future. During a full-scale invasion, the enemy destroys the architectural environment — its infrastructure, buildings and structures, monuments of historical heritage, landscape.

In the post-war period, architects and engineers will face the task of “restoration – renewal”. Keeping the traditional accord-

ing to the principle of Genius loci, it will be necessary to carry out renovation of territories and architectural objects, supplementing the environment with innovative solutions.

✓ What challenges do architects face when rebuilding war-torn cities?

— The main challenges are related to the formation of the information space necessary for the development of concepts, methods and programs of restoration, reconstruction of destroyed, damaged objects and entire settlements.

✓ Can architecture help rebuild a community and rebuild social structure after war?

— Society, social community are directly related to the architectural environment. Its restoration will certainly become the basis of revitalization of the living space of renewed settlements and communities.

✓ What new technologies and materials do you consider the most promising for use in post-war reconstruction?

— In the process of reconstruction, obviously, information technologies of data collection, accumulation and processing will become relevant for the design and erection, restoration, reconstruction of architectural objects. In addition to traditional structures, in particular concrete, brick and metal, the use of structural systems made of wood, local materials, energy-efficient and environment-friendly materials and products, and modern finishing technologies to create a harmonious aesthetic environment is likely to expand. In our opinion, the secondary use of construction materials that were formed as a result of the destruction of buildings and structures would be appropriate.

✓ What courses and programs at KNUBA prepare students for work in the conditions of post-war reconstruction?

— For successful work in post-war reconstruction, the Faculty of Architecture of KNUBA implements a specialist training program combining the traditional, professional component with specialized methods and disciplines aimed at solving specific architectural tasks of reconstruction:

- housing design for forced migrants;
- design of rehabilitation centers;
- creation of objects of new typological groups;
- design of military facilities;
- design-projection of mobile modules;
- restoration of architectural monuments, etc.

✓ Name the positive and negative trends in modern Ukrainian education. What challenges do you see for modern architectural education?

— The orientation of architectural education to the European educational space created possibilities to assess the advantages and disadvantages of the national architectural school. Among the unconditional achievements of Ukrainian architectural education is, first of all, the conscious career guidance of those who enter university, the development of the pre-university training system, which contributes to the improvement of the quality of further education. The phenomenon of combin-

ing the artistic, technical and humanitarian components of our educational programs is significant. This is confirmed by the traditional successes of architectural students in international competitions.

Among the main disadvantages of modern Ukrainian architectural education (as, obviously, for other specialties) are difficulties with financing educational and scientific activities, especially during the war period, the outflow of talented students abroad, and the staffing of scientific and pedagogical staff.

✓ **Which post-war reconstruction projects do you consider the most successful, and why?**

— In our opinion, successful post-war reconstruction projects should be creative developments that take into account national construction traditions in combination with innovative technologies, that is, “think globally - act locally”, involving world experience along with national achievements in the field of urban planning, architecture, art, culture in general.

✓ **What are your thoughts on the influence of digital technologies on architecture?**

— There is no doubt that digital technologies are the future of the development of the entire society and, in particular, of architecture. The specifics of architectural creativity is a harmonious combination of logic and intuition. The active use of information systems, digital technologies — artificial intelligence in the field of architecture will expand and accelerate the search and synthesis of effective, logical-sensory, compositional, functional, technical-economic, aesthetic, structural-complex solutions.

✓ **Does modern architecture affect the environment?**

— During the creation of an architectural object, environmental factors are one of the main formative factors. In modern architecture, along with total attention to ecological aspects of the natural-architectural environment, such specific directions as bioclimatic, environmental, parametric architecture, etc. are actively developing. The use of renewable energy sources and the use of traditional folk architecture are increasing.

✓ **Among your graduates there are quite famous, talented and creative personalities. Do you keep in touch with your alumni and how do you interact?**

— Architectural education encompasses a voluminous professional space, which organically includes university students, the Small Academy of Sciences with a section of architecture and design, teachers, and graduates of various years. Platforms



Reconstruction of the village of Moschun.

Students: O. Derkach, P. Polosmak, S. Silvestrova

Supervisors: Head of the Department of Architectural Theory, Doctor of Architecture, Professor H.L. Kovalska; Doctor of Architecture O.P. Oliinyk; Associate Professor A.Y. Peker”

for joint activity are the university, the National Union of Architects of Ukraine, the Ukrainian Academy of Architecture, and architectural bureaus. Forms of activity include teaching disciplines by practicing architects, participation in architectural project competitions, exhibitions, and scientific events. The Faculty of Architecture of KNUBA is a member of the European Association of Architectural Education (EAAE), which has significantly expanded the scope of our communication with the architectural community of Europe.



Concept for the Comprehensive Redevelopment of the Irpin District, Kyiv Region

Project Proposal by Student M.V. Nikolaiev

Supervisors: Head of the Department of Urban Planning, Doctor of Architecture, Professor N.M. Shebek; Doctor of Architecture, Associate Professor O.S. Zinovieva.

Ukrainian construction market during the period of full-scale invasion



Construction is one of the main sectors of the Ukrainian economy. Development of the construction market contributes to economic growth, improves infrastructure, creates new jobs and has a multiplier effect in stimulating related sectors of the economy. Over the past 10 years, the Ukrainian construction market has faced many challenges due to domestic economic problems, the global pandemic and Russia's full-scale invasion of Ukraine. However, even in these conditions, the construction sector remains one of the key areas of national economic development.

This review examines the main characteristics of the construction market in Ukraine, its structure, key changes, problems, challenges and further development prospects.

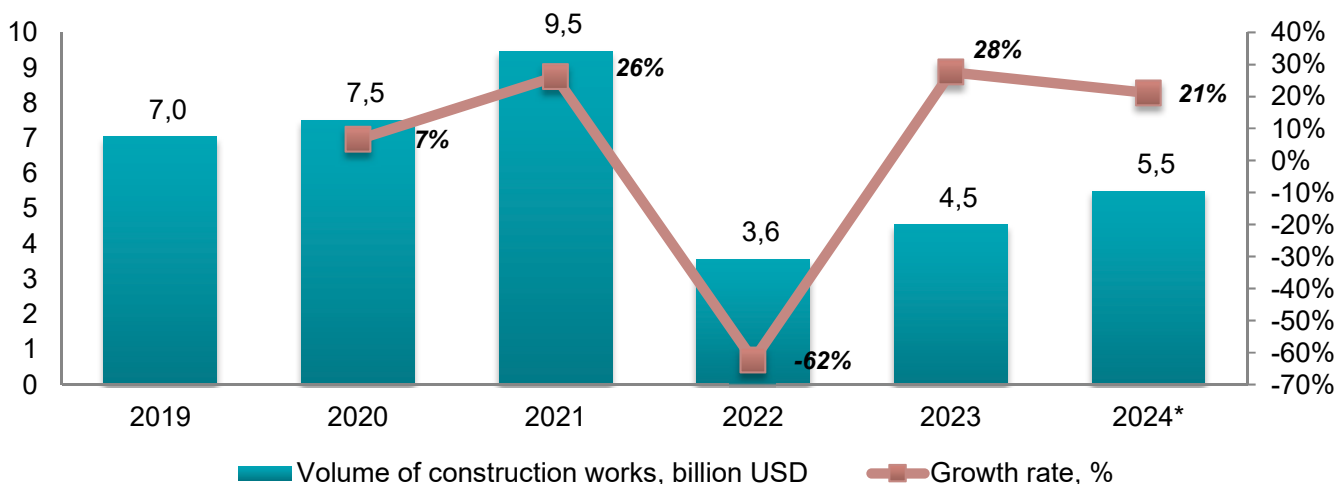
Construction volumes grew rapidly until 2022. In 2021, which proved to be the most successful year for the Ukrainian economy, construction volumes increased by 26% following the 2020 pandemic. This year, the market reached its all-time high of \$9.5 billion. The largest construction volumes were concentrated in Kyiv, large cities and regions with active economic activity. In 2021, the market continued to grow, driven by public investment in infrastructure and private investment in residential and commercial property. However, in 2022, the construction market came to a virtual standstill due to hostilities. In the first year of the war, the volume of construction work in Ukraine decreased by 62% in dollar terms compared to 2022. Already in 2023, construction work increased by more than a quarter, demonstrating a partial recovery of the market. In 2024, the market is expected to grow by 21% to \$5.5 billion, half of its pre-war levels, thanks in part to recovery programs and international financial assistance.

It is also worth noting that the volume of the Ukrainian construction market is low in the structure of the country's economy compared to European countries. Thus, in Eastern European countries, the share of the construction market is on average more than 6% of the country's GDP, while in Ukraine, even before the full-scale invasion, the construction market was on average up to 5% of GDP. Taking into account the drop in aggregate demand during the war, which was mostly felt in the construction market, the share of construction work decreased to 2.2% of GDP in 2022 and increased to 2.5% in 2023. The share of the construction market is expected to increase to 3% of GDP in 2024.

In addition to the cumulative drop in construction work from \$9.5 billion in 2021 to \$4.5 billion by the end of 2023 (-52%), the structure of the construction market itself has undergone dramatic changes during the full-scale invasion. Before the war, the housing market was one of the most dynamic segments of the construction industry. The strong demand for new housing in cities, especially in Kyiv and other large agglomerations, stimulated the construction of multi-story residential complexes. Similarly, the commercial real estate market was actively developing, in particular in the segment of retail facilities, industrial buildings and warehouses, and office centers. Infrastructural construction increased with the increase of state expenditures, but is currently mainly driven by international assistance for Ukraine's recovery.

According to the results of 2023, the main construction objects in monetary terms were non-residential premises, including hotel and similar buildings, office buildings, wholesale and retail trade, transport and communications, industrial and warehouse buildings, public leisure, education, healthcare and social protection buildings, etc. The next category is complex industrial buildings (21% in 2023),

DIAGRAM 1
VOLUME OF CONSTRUCTION WORKS IN UKRAINE, BILLION USD



Source: data of the State Statistics Service of Ukraine; Pro-Consulting assessment

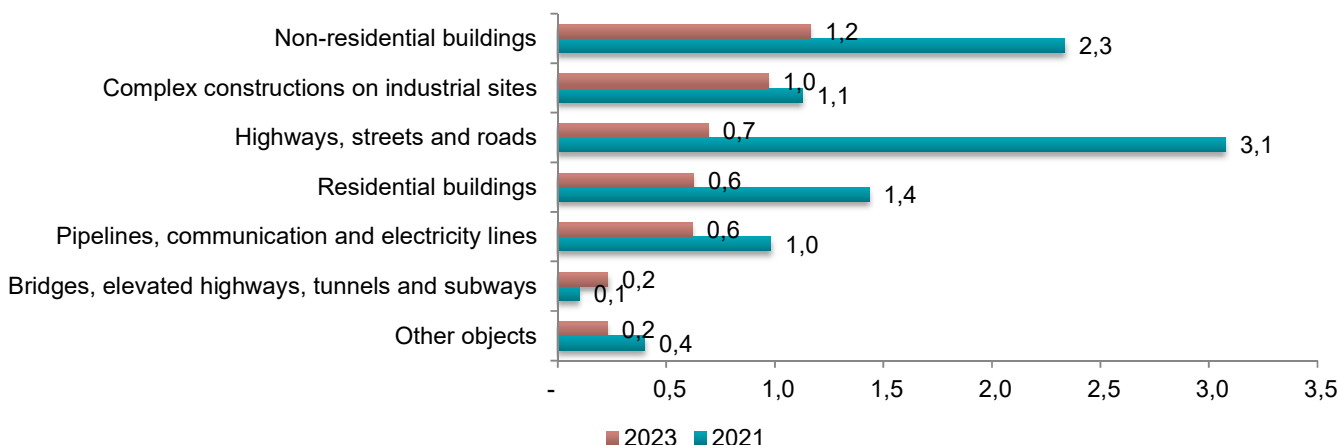
which includes buildings of mining and quarrying enterprises, buildings of electricity companies, buildings of chemical companies, and buildings of metallurgical companies. The volume of road construction during the war has dropped significantly, from \$3.1 billion in 2021 to \$0.7 billion in 2023. Currently, there is virtually no new road construction. Roads are being maintained at a minimum level, and new construction is taking place only on destroyed roads. Housing construction decreased by 56% during the war. The volume of new construction in 2023 is only 33% of the value of 2021. The only category of facilities that showed growth was bridges and elevated highways. The volume of construction work on these facilities increased by 130% from 2021 to 2023, which is due to the restoration of damaged facilities that are critical to the life of the regions. According to the Ministry of Infrastructure of Ukraine, more than 340 bridges and bridge crossings alone have been damaged.

Over the past 4 years, the regional distribution of new construction has undergone significant changes. In 2021, almost 40% of all new facilities in natural terms (m²) were built in the

Kyiv region, while in monetary terms this value was more than 50%. The period of 2022 was characterized by complete uncertainty and restructuring of the geographical structure of the market. Since the middle of 2023, the situation has already stabilised. In 2023, the volume of new construction increased significantly in the western regions. Lviv region has the highest volume of new construction (almost 20%). The share of Kyiv region (excluding Kyiv) remained at the pre-war level, which is partly due to the restoration of destroyed facilities in the northern Kyiv region. In 2021-2023, the share of Kyiv in the new construction segment decreased more than threefold, from 18.3% to 4.5% in 2023.

In the residential construction segment, the situation has undergone fundamental changes. Residential buildings are the basis of new construction, accounting for an average of 70% of new space before the war. During the war, the share of residential construction decreased from 67% in 2021 to 59% in 2023, partly due to the restoration of infrastructure and a decrease in demand for residential real estate. Currently, Lviv region is characterised by the largest amount of new construc-

DIAGRAM 2
STRUCTURE OF THE CONSTRUCTION MARKET BY TYPE OF OBJECT, BILLION USD



Source: data of the State Statistics Service of Ukraine; Pro-Consulting assessment



tion (21%). The share of Kyiv region (excluding Kyiv) decreased to 15%, and Kyiv itself — to 7.1% in 2023. In general, the largest growth in construction work during the war took place in the West of Ukraine, in particular in Ivano-Frankivsk (+192%), Zakarpattia (+122%) and Vinnytsia (+107%). Despite the fact that Lviv region is currently the leader in terms of residential construction, its indicators in 2023 will be only 79% of the values of 2021.

An additional challenge for the Ukrainian construction market has been price increases. Prior to the full-scale invasion, prices in the market grew by around 10% annually in UAH terms, which generally reflected the overall increase in the price level in the country. The largest increase occurred in 2022, which was due to general macroeconomic factors triggered by the full-scale invasion. In 2023, relatively low price growth was driven by the stabilization of the economy, a fixed exchange rate and a fairly low inflation rate. In 2024, prices started to grow faster due to the devaluation of the hryvnia, rising electricity prices and an increase in the overall price level in the country. In 2022-2023, construction costs increased by more than 50% on average, which led to a similar increase in prices in the primary property market. Additionally, Ukraine was forced to switch from exporting scarce construction products previously imported from Russia and Belarus to products from European manufacturers. Also, due to the impossibility of importing products by sea, construction materials are imported through the western regions, which further affected the price of products on the Ukrainian market

Housing prices by region have also changed. Thus, prices in the primary real estate market in Lviv have reached the levels of Kyiv. Zakarpattia is the third most expensive region in terms of housing prices, which demonstrates strong interest from new investors.

The state of the construction market affected key sectors of construction materials. Overall, the volume of production of construction materials in 2022 declined to almost 30-35% of 2021. Domestic consumption of cement dropped by 57%, concrete by 76%, steel structures by 60%, steel rebar by 69%, aerated concrete by 67%, bricks by 59%, and thermal insulation materials by 44%. Due to the resumption of construction work in 2023-2024, on average, consumption of construction materials recovered to 60% of the pre-war level.

The construction market will become strategically important during the post-war reconstruction period. According to the Kyiv School of Economics, direct losses to residential and non-residential real estate and infrastructure exceeded \$150 billion (at replacement cost) as of early 2024. Currently, the losses are even greater. Losses of residential buildings account for about 37% of all direct losses, while infrastructure, ranging from roads and bridges to energy sector facilities, account more than 30%. The main regions in terms of destruction are the eastern regions of Ukraine, in particular the regions where active hostilities have been going on for the longest time.

Therefore, it is clear that in the post-war period, the Ukrainian construction market will be key to the country's recovery. Accordingly, large-scale reconstruction may become a key market trend in the coming years. Investments in this segment could reach tens of billions of dollars, with most of the funding coming from international donors and investors.

We can expect widespread adoption of new technologies that will reduce costs and speed up construction processes. One of the main trends will be the transition to energy-efficient and environmentally friendly technologies. This is very important for international partners. There will also be a growing demand for rapid construction — mass housing construction, as about 4 million Ukrainians have lost their homes as a result of Russian aggression.

The Ukrainian construction market will face many challenges during the recovery period. Ukraine will need to adopt European norms, certification and environmental standards, which will be linked to the harmonisation of Ukrainian legislation with European standards. It will be necessary to work on improving the quality and standardisation of construction products, especially in the case of increasing export potential. A separate issue for Ukrainian businesses may be competition with foreign companies willing to operate in the Ukrainian market. And, of course, the ability to perform all construction work quickly and efficiently.

Thus, the construction market faced many challenges during the period of full-scale invasion. However, despite all the difficulties and threats, the Ukrainian construction market has not only managed to survive, but has also adapted to the new realities. Currently, the construction industry is in a difficult position, but it has great potential, given the growing socio-economic indicators. In the short to medium term, the construction market and its volumes will depend mainly on allocated international aid and government spending, mainly on rebuilding the damaged infrastructure. However, in the future, domestic demand for construction works will be the key driver of market growth, which will directly depend on the country's economic performance and its dynamics.

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INDUSTRIAL TECHNOLOGIES AND REINFORCED CONCRETE: A NEW DEVELOPMENT VECTOR



Ukraine is facing an unprecedented challenge — the reconstruction of destroyed infrastructure and housing. Is it possible to do it quickly, quality and using modern technologies? These and other issues were discussed by the leading experts of the construction market at the conference “Industrial technologies and reinforced concrete: a new vector of development”, which was held on October 15 as part of the “EuroBudExp” exhibition. The organizer of the event was the Prof Build magazine with the support of partners.

The conference became a real platform for exchanging opinions and discussing perspectives and technologies in rebuilding Ukraine’s infrastructure using industrial technologies and reinforced concrete. The main participants of the meeting were manufacturers and suppliers of construction materials, machinery and equipment, developers, construction companies, architects, representatives of financial institutions and international funds, designers and experts of related markets.

The program of the event consisted of several blocks, which included both reports and discussion panels. This combination gave the attendees the opportunity to get to know the new approaches in construction and take an active part in the discussion of important topics and controversial issues.

Industrial house construction: speed, quality, efficiency.

During the first block, the participants considered the prospects of industrial construction during the restoration of destroyed housing as a result of military aggression, the implementation of European design and construction experience using prefab technology for the reconstruction of Ukraine, modern industrial construction technologies using the example of ready-made wall modules of Royal House TM and total transparency as the basis of prefab-construction industry.

Svitlana Shakh, editor-in-chief and founder of the Prof Build magazine presented the magazine, advantages and opportunities of cooperation to the participants, introduced the



**INDUSTRIAL TECHNOLOGIES AND REINFORCED CONCRETE:
a new development vector**

Hennadiy Farenjuk
director of the State Scientific and Research Institute of Building Structures

Oleksandr Lisenyi
technical sciences PhD, head of the department of State Research Institute of Building Structures

Oleksiy Bilokon
commercial director of the Royal House company

Mark Kestelboim
CEO of Well-Being contech, Budova

Oleksiy Murashko
Doctor of Engineering, head of the RnD Well-being contech department

MODERATORS

Svitlana Shakh
editor-in-chief and founder of the Prof Build magazine

Natalia Dyuzhylova
deputy head of DIAM

BLOCK 1

**INDUSTRIAL HOUSE CONSTRUCTION:
SPEED, QUALITY, EFFICIENCY.**

Prof Build 15 жовтня 2024 року
МВЦ, пр-т Броварський, 15 Середняк 2024

future Prof Build events, thanked partners for their support and the Armed Forces of Ukraine for protection.

In turn, **Olena Voskobiynyk**, director of the Department of Technical Regulation in Construction of the Ministry of Community Development, Territories and Infrastructure of Ukraine, thanked for such thematic event and emphasized the importance of using the industrial method of construction in the future reconstruction of the country. After all, the array of destruction that Ukraine already has today will require a fast, modern and reliable approach in construction. That is why the expediency and advantages of one or another construction method are currently being actively considered.

Ms. Olena also reminded about the approved Procedure for development, examination and application of reuse projects in construction. After all, the use of such documentation will significantly shorten the time and reduce the cost of construction. It is intended for multiple use during the development of project documentation for the construction of objects or their separate parts. This will contribute to the fastest possible reconstruction of the destroyed social and residential infrastructure of communities, in particular schools, hospitals, kindergartens, residential buildings.

Oleksandr Rotov, chairman of the Board of Directors of CBU, and **Oleksandr Chervak**, executive director of CBU, joined in the congratulations. They thanked the editors and Svitlana Shakh personally for cooperation and holding specialized business meetings, announced the planned events of the Confederation of Builders of Ukraine, emphasized the importance of professional associations and wished all those present good work, speedy Victory and a peaceful sky.

Vasyl Andreyev, Deputy Chairman of the Federation of Trade Unions of Ukraine, President of the Trade Union of Construction Workers of Ukraine, drew attention of participants to the issue of personnel and confirmed the intention of an active discussion between employers and the Trade Union to train workers who will be able to work with reinforced concrete and be involved in industrial construction. At the same time, work on monolithic-frame construction is actively underway, where the main emphasis is placed on personnel capable of working

with concrete. Mr. Vasyl also mentioned the main support programs currently being implemented by the team and invited those present to cooperate.

Hennadiy Farenjuk, director of the State Scientific and Research Institute of Building Structures, spoke about the identification of development paths at the current stage and the prospects of industrial construction during the restoration of destroyed housing. In particular, he noted that there is a growing trend in the use of reinforced concrete structures in both residential and non-residential construction.

Mr. Hennadiy also reported that the institute conducted an analysis of the modern state of industrial house construction in Ukraine, a comparison of buildings of various structural systems, economic indicators of options and calculations in terms of resistance to damage due to military actions.

At the same time, he drew attention to the rather limited number of enterprises that today can manufacture elements for reinforced concrete structures. If earlier there were about 85 such enterprises in Ukraine, now there are no more than 10 of them.

The topic was continued by **Oleksandr Lisenyi**, technical sciences PhD, head of the department of State Research Institute of Building Structures. Using real examples, he showed participants a comparison of the resistance to damage caused by military actions of buildings of different structural systems and gave examples of their restoration. In particular, Mr. Oleksandr noted that during the comparative analysis, experts came to conclusion that panel houses are generally resistant to explosive damage of moderate intensity (artillery or mortar shelling, fires), resistant to progressive collapse in the case of reliable joint construction, and cannot withstand rocket or bomb attacks hits.

At the end of the speech, Oleksandr Lisenyi mentioned that modern panel residential buildings can provide at least no worse conditions of resistance to destruction due to military actions and emergency situations, in particular to progressive destruction, than buildings of other structural systems. But in general, the requirements of the acting construction regulations in Ukraine do not provide for the design of multi-story residential

buildings resistant to explosive loads caused by a direct hit or blast wave of artillery shells, aerial bombs or missiles.

At the same time, the design of multi-story buildings in compliance with the current requirements for earthquake resistance, fire resistance and resistance to progressive collapse increases their resistance to destruction due to explosive loads.

Oleksiy Murashko, Doctor of Engineering, head of the RnD Well-being contech department, professor of the Department of Information Technologies and Design of the National University «Odesa Polytechnic», devoted his report to the topic of implementation of European design and construction experience using prefab technology for the reconstruction of Ukraine. In particular, among the key features, Mr. Oleksiy named the maximum prefabrication (in the conditions of Ukrainian logistics to the 4th level), the use of three-layer walls in various variants and floor slabs with wide possibilities to the main principles of European prefab.

At the same time, taking into account the demands placed on constructions abroad, according to Mr. Oleksiy, Ukraine has appropriate alternatives and competitive solutions. For example, Well-Being ConTech is a technology of rapid modular construction of multi-apartment buildings, based on the principles of energy efficiency and earthquake resistance. The elements of future buildings are manufactured in advance at the factory according to the prefab principle and then «assembled» on the construction site, which reduces the construction period and the labor intensity by 50%. Depending on the requirements for a specific building, the speed of construction can reach from 40 to 120 apartments per month. This technology can help in the reconstruction of destroyed housing in the de-occupied territories.

Oleksiy Bilokon, commercial director of the Royal House company, continued to tell the conference participants about modern technologies of industrial construction using the example of ready-made wall modules of the Royal House TM. Among the advantages, the company certified the production of load-bearing reinforced concrete structures (modules) in accordance with EU norms and standards. It is important to note that Royal House is the first Ukrainian developer to receive the CE Certificate, which confirms the conformity of the characteristics and composition of the TM Royal House wall module

standards and legislative documents of the European Union. Among the advantages of prefabricated monolithic technology, Mr. Oleksiy attributed, in particular, the fact that the cost of construction when using prefabricated wall modules is reduced by 25-35% (compared to monolithic frame technology); building construction times are halved; the use of clinker on the facade extends the service life of buildings; construction and installation are possible at any time of the year, because all «wet» processes take place in advance in the workshops of the plant, etc.

Mark Kestelboim, CEO of Well-Being contech, Budova, using the example of using prefab construction, showed a very real possibility of total transparency in construction processes. For example, the reduction and fixed number of labor force involved in production and construction processes narrows opportunities for manipulation and corruption. Also, the standardization of products makes it impossible to manipulate the quantity and quality of materials for the purpose of corruption. Mr. Mark also emphasized the importance of control over reports and estimates at each stage of construction. So, the company has developed a software solution that connects the BIM model of the construction object with the company's ERP system. This allows you to achieve transparency in the formation of the cost, duration and labor intensity of the project, reducing manual work (human factor) to a minimum — thereby minimizing errors and increasing the speed of making the right decision. In addition, Well-Being contech technology requires 40-50% less construction materials compared to traditional construction methods.

Discussion panel: Reconstruction according to the principle of build back better method of industrial construction is possible

The second part of the first block took place in the format of a discussion, which was moderated by **Natalia Dyuzhylova**, deputy head of DIAM. The speakers of the panel were:

Anatoly Berkuta, vice-president of Construction Chamber of Ukraine, vice-president of the Academy construction of Ukraine, vice-president of the Central Bank of Ukraine;

RECONSTRUCTION ACCORDING TO THE PRINCIPLE OF BUILD BACK BETTER METHOD OF INDUSTRIAL CONSTRUCTION IS POSSIBLE

Anatoly Berkuta
vice-president of Construction Chamber of Ukraine, vice-president of the Academy construction of Ukraine, vice-president of the Central Bank of Ukraine

Andrii Katashov
technical advisor, Nordic representative office Environment Finance Corporation

Ima Khrenova-Shymkina
project manager, German Society for International Cooperation (GIZ) GmbH, Regional Office Germany-South

Oleksandr Stetsenko
senior manager of checkpoint infrastructure development in the USAID Project «Economic Support of Ukraine»

Anton Cherkashyn
architect, CEO buro A24D

Mark Kestelboim
CEO Well-Being contech, Budova

DISCUSSION PANEL MODERATOR

Natalia Dyuzhylova
deputy head of DIAM

Prof Build

ЄвроБудівництво 2024

Dr. **Ima Khrenova-Shymkina**, project manager, German Society for International Cooperation (GIZ) GmbH, Regional Office Germany-South;

Andrii Katashov, technical advisor, Nordic representative office Environment Finance Corporation;

Oleksandr Stetsenko, senior manager of checkpoint infrastructure development in the USAID Project «Economic Support of Ukraine»;

Anton Cherkashyn, architect, CEO büro A24D;

Mark Kestelboim, CEO Well-Being contech, Budova.

Each of the invited speakers expressed their opinions regarding the advantages and disadvantages of industrial technologies and reinforced concrete for rebuilding the infrastructure of Ukraine. In particular, Anatoly Berkuta emphasized the importance of comparing economic indicators when choosing one or another construction method. It is «mathematics» that should become one of the main levers. After all, the reconstruction will be based on the financial issue and the ability of the state to return lost housing to people. No less important will be the issue of availability of working and engineering-technical potential. These and other factors, according to Mr. Anatoly, should be taken into account when determining the approaches to rebuilding the country.

Ima Khrenova-Shymkina drew attention to the importance of the issue of reuse of construction waste. After all, this is very relevant for Ukraine, which is currently in a state of war, which leads to significant destruction. Also, Mrs. Ima gave as an example a number of practical cases where modern approaches to construction are taken into account, in particular, energy efficiency, which should become the basis for the green recovery of Ukraine. «It is necessary not just to rebuild, but to have a new concept of the country's development based on energy efficiency and decarbonization measures,» noted Ima Khrenova-Shymkina.

Andriy Katashov continued the issue of using energy-efficient technologies and renewable energy sources in construction. Using the example of the concept of a school with almost zero energy consumption, which should be built instead of a damaged building in the village of Mykulichy, Kyiv region, Mr. Andriy showed the problematic aspects encountered during the development of the project. For example, in order to achieve the energy efficiency targets according to the NZEB principles, it is extremely important to use the space efficiently in the building. Current Ukrainian regulations, unfortunately, do not allow this. Certain restrictions are imposed by the configuration of the existing site, since, in addition to the building itself, all engineering networks and equipment, a geothermal field, sports fields, a bomb shelter, a boiler room and other components must be located within its boundaries. However, there is a separate regulation regarding the location of these components and the minimum distances between them, etc.

In turn, Oleksandr Stetsenko noted that Ukraine and Europe have a slightly different approach to prefab technology. Here, this concept has a more generalized meaning and applies to almost everything that is manufactured in factory conditions and then assembled on site. Therefore, in view of this approach, construction using prefab technology is indeed very common in Europe. And here the question is not about money, but, above all, about quality control, speed and energy efficiency.

Anton Cherkashyn paid attention to dispelling the commonly accepted myth that industrial construction is monotonous and gray buildings cannot have architectural expressiveness. According to Mr. Anton, everything depends on the architect and the manufacturer. As practice shows, most manufacturers



**INDUSTRIAL TECHNOLOGIES AND REINFORCED CONCRETE:
a new development vector**

Janne Haryunpaa
executive director of East Office
of Finnish Industries

Matty Silvennoinen
Elematic operations
director

Yurii Tromsa
head of Peikko Ukraine

Vladyslav Gots
general director of
«CENTRBUDPROEKT» LLC,
«DBK-ZHYTLOBUD» corporation

Vitaly Tchaikovskiy
product manager of
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MODERATORS

Svitlana Shakh
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Associate Professor of the Department of Architectural
Structures, PhD in Engineering

**BLOCK 2 PRODUCTION BASE AND TECHNOLOGIES
FOR RECONSTRUCTION**

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ЄвроБудЕкспo 2024

are currently trying to change their approaches and switch to a more modern design of buildings.

At the end of the discussion, Mark Kestelboim once again emphasized the practicality and expediency of using typical projects. At the same time, it is worth considering the diversity in typical projects. «This is what we will come to in the near future. Of course, such measures will require changes in the country's legislation, but there are already partial developments,» concluded Mr. Mark.

Production base and technologies for reconstruction

The next block of the conference business program included reports on such issues as the experience of restoring destroyed housing with the help of modern information technologies and the use of industrial elements of factory production; advantages and disadvantages of using architectural concrete; Finnish solutions of companies East Office of Finnish Industries to support Ukraine; fast, convenient, reliable solutions for reinforced concrete, based on the example of solutions from Peiko and others.

Vladyslav Gots, general director of «CENTRBUDPROEKT» LLC, «DBK-ZHYTLOBUD» corporation, showed the participants of the event a real case of restoration of a house in Uman that suffered a rocket attack — using an industrial construction method. Noting that during the development of the project to restore the destroyed building, modern methods of information design were used, and only thanks to them it was possible to achieve a quick result and the quality of the implementation of project decisions. Also, quick recovery was possible thanks to the use of the latest equipment for the production of reinforced concrete elements that meet modern European quality standards.

Vitaly Tchaikovskiy, product manager of MS-Bauchemy, spoke about architectural concrete in the most informative way. In particular, about where it is used, what requirements must be met to obtain a quality product, and what place the use of architectural concrete can occupy in the process of re-

building Ukraine. For example, before using architectural concrete, it is worth making sure that it meets such requirements as: ability for concrete to flow and dense filling of the form; high viscosity; the ability to pass through the elements of the reinforcing frame without blocking large aggregate and the absence of the ability to stratify and separate the solution.

Janne Haryunpaa, executive director of East Office of Finnish Industries, presented the Finnish solutions of companies East Office of Finnish Industries to support Ukraine. Let us remind, East Office of Finnish Industries is a unique community of business leaders in Finland, which directs its resources to gather information, coordinate work and support its member companies regarding activities in Ukraine and cooperation with Ukrainian businesses.

Yurii Tromsa, head of Peikko Ukraine and **Oleksandr Pal-yvoda**, sales manager, talked about a fast, safe and ecological way of designing and building using Peikko products. First of all, the attention of participants was drawn to the continuous development of the product line and free design tools offered by the company to help designers choose the right products. Regarding the product line, the business is based on four categories in which the company operates: solutions for thin floor structures, connections for prefabricated and monolithic structures (for example, precast elements used in production, elements for reinforcement and lifting mechanisms) and solutions for wind energy. Products for industrial floors are a separate group of goods. All of these solutions, without exception, are interesting to the construction market of Ukraine and can be applied in the implementation of infrastructure projects of various directions (from road infrastructure construction objects to critical infrastructure), in residential and commercial construction, as well as on wind energy facilities.

Matty Silvennoinen, Elematic operations director, presented solutions that will enable construction projects to be implemented quickly and productively thanks to Elematic. After all, thanks to 4,000 deliveries of Elematic prefabricated structures, hundreds of thousands of construction projects have been implemented in more than 100 countries of the world.



Millions of people live in safe homes that last for many decades thanks to the technology and capabilities of Elematic. In particular, the speaker attributed the following to the significant advantages of prefabricated structures:

- high quality of construction;
- better productivity of construction;
- speed of construction;
- more efficient building design;
- less need for transportation;
- safety at the plant and on the construction site.

Discussion panel: Sustainable construction

The conclusion of the business program of the conference was a discussion, where experts of the construction market and the scientific community of Ukraine discussed new requirements for sustainable construction projects, standards and methods for confirming compliance, benefits for people and communities, and more.

For example, **Tetyana Tkachenko**, head of the KNUBA Department of Environmental Protection Technologies and Labor Protection, among the list of problems currently faced by the construction industry of Ukraine, focused in detail on «green construction» and noted that today there are quite high requirements for the quality of buildings, but along with this there is a catastrophic lack of funds. Also, among the reasons for the limited distribution of green facades in Ukraine, Ms. Tetyana named insufficient awareness, insufficient regulatory framework and unsystematic implementation. At the same time, domestic developments and research results allow scientifically based and systematic implementation of green constructions to achieve maximum efficiency. After all, according to the speaker, among the prospects of the technology of green constructions are: increasing energy efficiency (overcoming energy poverty and strengthening the country's energy independence); drainage of rainwater from highways and urban



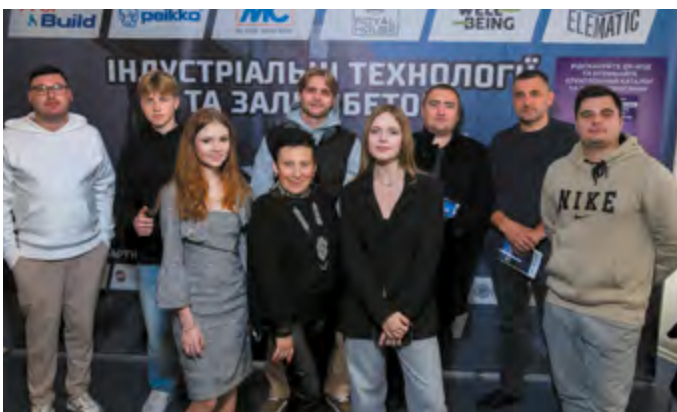
areas (increasing the reliability of transport, avoiding flooding of basements); noise absorption (planting of plants to reduce noise); improvement of indoor air quality (cleaning from pollution, dust and pathogenic microorganisms and viruses, oxygen saturation); improvement of the ecological situation (purification of the air in populated areas, increase in natural diversity, organization of biota migration routes deep into densely built-up areas, etc.); passive post-war rehabilitation thanks to the maximum approximation of the environment to the natural, which reduces the level of stress and calms.

Yevgen Kulinko, assistant of the department of heat engineering, deputy head of the department of marketing, organizational and technical work and planning of the KNUBA NZEB Hub, and **Andrii Posikera**, head of the Youth Center for Innovative Technologies in Architecture and Construction of the NZEB Hub, graduate student of the KNUBA department of architectural structures, continued the topic of sustainable construction. In particular, they emphasized the expediency of repeated processing. The life cycle of building materials and the impact of the construction industry on environment were considered. For example, on the example of «green buildings» you can see that, although such buildings have a higher initial cost, the average annual maintenance costs for a comfortable stay in them are 25% less.

There was also a presentation of a project to restore the secondary school in Okhlyrka using ecologically certified building materials and complying with the principles of energy efficiency.

Summarizing the results of the speeches of the invited speakers and comments from the conference participants, we can say with confidence that Ukraine is on the threshold of new qualitative changes, therefore today it is very important to join forces to ensure a quick and high-quality reconstruction based on sustainability, efficiency and innovation.

We thank everyone who joined the conference and look forward to new meetings.



Extended meeting of the CBU on the occasion of Builder's Day



On August 16, 2024, an extended meeting of the Confederation of Builders of Ukraine was held on the occasion of Builder's Day. During the event, participants discussed urgent issues and challenges of the construction industry and recognized the best representatives of the construction industry.

The event brought together more than 150 representatives of the construction business, authorities, partners of the Confederation of Builders of Ukraine, specialized business associations and unions. In particular, guests of the event were:

Oleksandr Novytskyi, head of the State Inspection of Architecture and Urban Planning of Ukraine; Yehor Fareniuk, director of the State Institution «Energy Efficiency Fund»; Oleksiy Krasov, people's deputy of Ukraine; Natalia Panova, Deputy Head of the State Property Fund of Ukraine;

Pavlo Kachur, head of the «Ukrcement» Association; Petro Olenych, Deputy Head of the Kyiv City State Administration on digital development;

Mykola Marchuk, chairman of the board of the State Fund for Promotion of Youth Housing Construction; Andriy Tarasenko, director of the department of development of partner projects and alternative products of «Ukrfinzhytlo»; Oleksiy Dniprov, rector of the Kyiv National University of

Construction and Architecture; Oleksandr Rotov, Chairman of the Board of Directors of CBU;

Anatoliy Berkuta, Vice President of the CBU; Oleksandr Kharchenko, Vice President of CBU.

Also, among those present were representatives of associations of CBU partners: Federation of Employers of Ukraine, Chamber of Commerce and Industry of Ukraine, American Chamber of Commerce and Industry, European Business Association, Union of Ukrainian Entrepreneurs, Interstate Guild of Consulting Engineers, Ukrainian Association of Communities, Association of Small Cities of Ukraine, NGO «Mayors Club», Academy of Construction of Ukraine, Trade Union of Construction Workers and Building Materials Industry of Ukraine, USAID Ukraine, GIZ Ukraine, Office of the Permanent Representation of the European Investment Bank in Ukraine, UkraineInvest, Project «Support for Digital Transformation», National Qualifications Agency, Prozorro, NGO «Living Planet», EdUP project, and others.

Lev Partskhaladze, president of the Confederation of Builders of Ukraine, gave a welcome speech at the beginning of the event. He congratulated participants on Builder's Day and thanked them for their contribution to the restoration of Ukraine. Mr. Lev noted that despite all the challenges, Ukrainian business has adapted and continues to work.





Oleksandr Chervak, executive director of CBU, moderated the meeting. He informed the participants about the work and achievements of the CBU during the past few months, as well as about the nearest plans. In particular, the confederation actively cooperates with international partners to accelerate reconstruction and promotes communication between the government and business.

«Recently, we took part in the discussion with the Ministry of Health of Ukraine on further ways of transparent, quick and high-quality restoration of the Okhmatdyt hospital premises. In addition, the Confederation initiated and held a Round Table devoted to the solution of the VAT problem in matters of housing construction with state funds,» said Mr. Oleksandr.

He also highlighted the results achieved within the framework of the «Drone Confederation» initiative, which promotes cooperation between the private sector and the defense forces. The goal of this initiative is to provide our military with the most modern means of intelligence, which play a key role in the performance of combat missions. Many companies have already joined the initiative, for example, Alliance Novobud, Penetron, Veka, Royal House, «New Century», «Lutsesantehmontazh #536», «Omoks», «Building Guild of Ukraine» and many others.

Traditionally, during the event, Oleksandr Chervak and Olena Kononenko, director of the ReBuild Ukraine Expo and Aquatherm, presented the Recovery Construction Forum 3.0 program, which will take place on November 13, 2024 in Warsaw, Poland. Thus, in two blocs, it is planned to discuss the issue of reconstruction of Ukraine. In particular, talk with government officials and other speakers on the following topics:

- The priorities of the reconstruction of Ukraine today and in the near future.

- Industrial recovery of Ukraine and investment promotion policy.
- Attracting additional funds for the reconstruction and expansion of partnership ties with European business.
- Financing of reconstruction projects from NEFCO.
- European support for the reconstruction of Ukraine.
- Analysis of the building materials market: the potential of Ukraine and other topics.

Representatives of the Ukrainian government and European countries, local self-government bodies, international financial institutions, donors, investors, leaders of the construction industry are invited to participate in the Recovery Construction Forum 3.0.

On the occasion of Builder's Day, representatives of the construction industry received honorary awards from the CBU:

- orders, medals and certificates for significant contribution to the support of the construction industry in the conditions of martial law;
- letters of appreciation for support to defenders and significant contribution to Victory;
- letters of appreciation for support to Ukrainian people and a significant contribution to Victory;
- for support of Ukrainian people during the Russian aggression against Ukraine;
- for a reliable partnership, fruitful cooperation to speed up the quality reconstruction of Ukraine and on the occasion of Builder's Day.

The editors of Prof Build magazine were also recognized by the Confederation of Builders of Ukraine for their work and received thanks for professional information on current industry news, coverage of important events and on the occasion of Builder's Day.

Let's continue to bring Victory closer together to rebuild our Ukraine as soon as possible!



BUSINESS DAY AS PART OF AN EXTENDED MEETING OF THE CBU BOARD OF DIRECTORS



Business Day took place on October 1, 2024 as part of an extended meeting of the CBU Board of Directors. During the meeting, the construction community and representatives of the authorities together with international partners came together to discuss the current challenges of the industry and effective coordination of efforts for the future reconstruction of Ukraine.

The state of vocational training for the construction industry

The meeting was attended by representatives of the authorities, relevant ministries and Parliament committees, members of the Parliament, business communities, international organizations and foreign partners. The participants discussed the current issues of the construction industry and the possibilities of consolidating efforts to rebuild Ukraine. The program of the event included several blocks. Oleksandr Chervak, CBU executive director, moderated the event.

The first block of Business Day was dedicated to the topic «The state of professional training of personnel for the construction industry. National study».

During the discussion, the peculiarities of cooperation between business and vocational education institutions, the level of practical training of graduates and the ability of employers to cooperate with students were discussed. In particular, Dmytro Zavorodnyy, Deputy Minister of Education and Science of Ukraine for digital development, digital transformations and digitalization, informed about the importance of cooperation between business and vocational

education institutions in professional practical training of students. According to Mr. Dmytro, a significant renewal of the infrastructure of educational institutions has been taking place recently, in particular, workshops that allow training in modern professions. The upgrade is carried out with the support of the state budget and international partners financing modernization projects.

One of the main goals is to create conditions for short-term programs that will help quickly acquire new skills and enter the labor market. At the same time, he emphasized the importance of dual education and internships for students and teachers, as well as cooperation with business, so that practical skills meet modern market requirements.

EdUp project experts presented a study on the current state of professional and practical training of vocational education graduates in construction professions. Qualitative (in-depth interviews) and quantitative (national survey) indicators were analyzed for the study. Thus, according to the research, the majority of trainers (80%) and students (71%) prefer the organization of the educational process in educational laboratories and workshops. In particular, the greatest influence is exerted by the possibility of internship, the pres-





ence of a mentor at the enterprise and the level of qualification of teaching staff. Students pay special attention to the personal qualities of trainers and the material and technical support of enterprises.

Regarding the need for educational materials, EdUp experts reported that teachers mark the need for textbooks, materials and layouts, while students prefer videos, mobile applications and presentations.

At the same time, both employers and vocational schools trainers said that 49% of applicants work at full-time workplaces of enterprises during their internship, and 44% of students undergo internship as part of qualified work teams. 85% of the students of education expressed their satisfaction with the internship at the enterprise and most of them (76%) are doing internship in the profession they are acquiring.

With regard to material and technical base, the study showed that more than 60% of the interviewed vocational schools trainers and teachers have a modern base for practice, and 40% of pedagogical workers confirm the availability of adapted laboratories/workshops for inclusive education.

Experts also told why companies cooperate with VET schools. Some enterprises traditionally cooperate with educational institutions, and some train specialists specifically for the enterprise's own needs. Other reasons for cooperation are:

- young people mainly aged 17 to 25;
- the latest material and technical support in educational institutions;
- short period of study.

On the other hand, the reasons why companies do not cooperate with VET schools include:

- unwillingness of the enterprise to spend time on «retraining»;
- reluctance of business to take minors on industrial practice;
- reluctance to spend additional funds on personal protective equipment for applicants;



- the company requires students to bring their own tools;
- absence of a mentoring institute for enterprises.

Poshan KS, director of Swisscontact Ukraine joined the Business Day, as part of the extended meeting of the CBU Board of Directors. He assured that the Swiss agency Swisscontact continues to support the construction business.

«Now Ukraine is going through a brutal war. But even this did not prevent construction companies from continuing their work in Ukraine, and we are sure that after the Victory there will be many more such projects that will require a large amount of workforce, both highly qualified and medium-level or even semi-qualified, Poshan KS noted. — Therefore, the Swiss agency Swisscontact implements a project financed by the Swiss government, Geberit and Sica, with the support of the Ministry of Education and Science of Ukraine. We will continue to support construction professions to reach even greater heights.»

Challenges of modern development: policy and forecasts

During the second panel, the participants found out about the trends in development in conditions of war and the peculiarities of pricing.

Andrii Tarasenko, director of the development department of partner projects and alternative products of «Ukrfinzhytlo», congratulated those present on the second anniversary of the e-Oselia program and talked about the achievements of the program. For example, more than 13 thousand Ukrainian families became owners of housing worth more than 21 billion hryvnias thanks to e-Oselia, and he noted that 82 developers have already joined the program.

Among the main prospects for the development of the e-Oselia program, Mr. Andrii attributed a greater emphasis on the primary housing, creation of a unified developer questionnaire and digitization of e-Oselia processes.





Yevgeniy Metzger, chairman of the board of PrJSC «Ukrfinzhytlo» continued the topic of the effectiveness of the e-Oselia program. In particular, he noted that the program currently covers 98% of mortgage lending. Referring to the data of the European Mortgage Federation (EMF), which includes the company «Ukrfinzhytlo», Mr. Yevhen talked about the terms of decision-making by foreign banks and compared this indicator with the Ukrainian one. On average, European banks make decisions within one day, while in Ukraine the fastest decision was made in 3.5 seconds.

Taking into account the comments and recommendations of many members of the parliament, developers and market players, a number of changes have been made to the e-Oselia program, which are gradually coming into force.

«Today, e-Oselia has become the most successful state mortgage program. And this became possible thanks to joint and coordinated work of the team, cooperation of interested authorities and representatives of the construction industry, a unique offer for the mortgage market. Thank you for such a fruitful work. I am convinced that even brighter results await us ahead,» Yevhen Metzger concluded.

Mykola Marchuk, Derzhmolodzhytlo (State Youth Housing) board chairman, spoke about the programs implemented by the fund. Thus, a number of state and local programs are currently being implemented to provide housing for youth and pedagogical workers, paying special attention to internally displaced persons and participants in hostilities.

Mykola Marchuk noted that the fund's employees are actively involved in the expert environment, as well as in working on strategies for providing housing for internally displaced persons and developing regulations.

Also, Mr. Mykola informed about the cooperation with the German government and the KfW credit institution for reconstruction which contribute to the implementation of the «Residential premises for internally displaced persons» program. He spoke about the advantages of this mortgage lending program for internally displaced persons:

- small down payment;
- fixed interest at the level of three percent per annum;
- quite a long crediting period — 30 years;
- a wide selection of housing on the real estate market, both from developers and on the secondary market.

According to Mykola Marchuk, during the implementation of the first stage of this program during 2021-2023, State Youth Housing managed to provide 669 internally displaced families with their own housing, while the applications of about 4 thousand candidate families were processed. Based

on the results, an check was performed, all relevant reports were submitted and an international audit was passed.

Currently, the second stage of the implementation of this program is planned, which involves attracting an additional 17 million euros to provide mortgage loans for about 400 families.

Olena Unanyan, LUN development director, informed the audience about real estate market statistics as of September 2024. In particular, she told the participants with primary market analytics, primary and secondary housing prices, and provided information on sales statistics.

The expert noted that from the beginning of the full-scale invasion until today, sales of 481 residential complexes have started in Ukraine, in particular, the largest number of new housing complexes have started sales in Lviv, Kyiv, Zakarpattia, Ivano-Frankivsk and Ternopil regions. She also reported that there are currently 1,543 new condominiums for sale, of which 25% started sales for the first time after February 24, 2022.

Regarding the pace of putting housing into operation, Olena Unanyan said that in September, the State Statistics Service of Ukraine updated the report, according to which 4.57 million square m of housing is out into operation.

Olena Dmitrieva, the first deputy head of the Globus Bank board, spoke about the future of commercial mortgages in Ukraine and elaborated on the following topics:

- the level of commercial mortgages in Ukraine as of 2024;
- demand for mortgages in the primary market;
- mortgage rates in certain European countries in 2024;
- forecasts regarding mortgage lending in Ukraine;
- Western European trends in mortgage lending.

According to her, the level of commercial mortgages in Ukraine does not exceed 3% of the total, but the demand for mortgages in the primary market is still quite weak. Mrs. Olena compared the levels of mortgage rates in some world countries and answered questions about Ukraine's need for commercial mortgages. Thus, the expert noted that citizens need a commercial mortgage if the rate is low, banks — if there is demand, and the state — if there is not enough money for subsidies.

Regarding foreign trends in international lending, Olena Dmitrieva noted that most countries prioritize energy efficiency of buildings and the uncertainty of interest rates. Also, they are currently actively implementing artificial intelligence technologies at the consulting stages and developing open banking and open data.

Anna Anisimova, head of «Intergal-Bud» investment and analytics department, stated the current state of primary real estate sales and noted that currently Ukrainians most often buy ready-made housing or housing, the construction of which will be completed within the next 6 months. They mainly choose spacious housing, which is caused by the emergence of the affordable mortgage program (e-Oselia) which allows you to choose housing with a larger area. The head of «Intergal-Bud» investment and analytics department named the key problems of the primary market as of now, such as constant growth of the cost of construction and the lack of qualified personnel.

Dmytro Struk, «Creator-Bud» director for development spoke about the main trends in housing construction, among which he named accessibility, speed and economy as the main ones. Using the example of his own projects, he explained how to achieve these trends. So, on the territory of the residential complex there is a park with an area of 2 hectares with its own water body, children's playing areas, walking alleys, sports grounds and pet walking areas. In addition, a sports center is located in one of the buildings of the complex, which can be used by all residents.



Mr. Dmytro noted that each of the developers should continue to create new housing, opportunities for people and jobs.

Olha Sydoruk, head of the CBU committee on normative and legislative activity, head of SEMPRA LAW, introduced the legal aspects of development. In particular, she reviewed the Law of Ukraine «On guaranteeing property rights to real estate objects that will be built in the future», reforms in the field of urban planning and spoke about the explanatory campaign of the State Inspection of Architecture and Urban Planning of Ukraine. Also, Ms. Olga explained the conditions for participating in the «DOMIVKA + Rent and Buy» program. Thus, in the capital, internally displaced persons who are included in the register of citizens who need housing for temporary residence, and soldiers of Armed Forces can rent an apartment with a 50% discount and the possibility of further purchase of the apartment through the «DOMIVKA+» project.

Extended meeting of the CBU Board of Directors

During the third block of the event, an extended meeting of the CBU Board of Directors was held, where the participants discussed current issues in the construction industry and the possibilities of consolidating efforts to rebuild Ukraine.

Lev Partskhaladze, president of CBU, made a welcome speech at the beginning of the meeting. He told the audience about the current state of the construction industry and introduced the future activities of the Confederation of Builders of Ukraine.

Olena Shulyak, head of the Parliamentary Committee on operation of state, local self-governance, regional development and urban planning, head of the Servant of the People party, spoke about the main directions of the Draft Law on the State Budget of Ukraine for 2025.

Mrs. Olena noted that according to the Draft, the budget of 2025, as well as this year's budget of 2024, is aimed mostly at the defense industry of Ukraine. However, if in 2024 defense expenditures amounted to UAH 1.6 trillion, then the Draft Law on the State Budget of Ukraine for 2025 provides for UAH 2.223 trillion for the defense sector.

She also informed that the Ministry of Development of Communities and Territories of Ukraine, together with the specialized parliamentary committee, submitted a request to add UAH 40 billion to the Project of the Law to the State Budget of Ukraine for 2025 to finance the Restoration program, since currently there are no funds for its implementation provisioned in the Draft.

«We will fight to the end to make sure that the state program is continued, which primarily supports not only the people who were left without their homes, but also the real estate market in general and our construction industry, although in a small part,» stressed Ms. Olena.

In the Draft State Budget of Ukraine for 2025, UAH 9.4 billion is provided for the financing of the e-Oselia program, which is the focus of most modern developers. In addition, as of 2024, more than 200 communities have begun work on comprehensive recovery plans. Olena Shulyak noted that due to the lack of competent verified data, it is currently quite difficult to work in this direction and emphasized that the cooperation of business and communities is extremely important for the further development of our state.

She introduced one of the three main components of the Ukraine Facility plan: the allocation of more than EUR 16 billion by 2027 for creation of an investment fund for the work of both Ukrainian and international financial institutions (in particular, the European Investment Bank and the Council of Europe Development Bank) on business development, including the construction industry.

Regarding digitalization, Olena Shulyak spoke about the continuation of work on the DREAM — Digital Ecosystem for the accountable management of recovery, so that it becomes a mandatory element of the digital system at the level of legislation, which will be used directly in the process of rebuilding Ukraine.

On the basis of the specialized parliamentary committee, public consultations were held for more than 1,000 people, aiming to analyze the main principles of recovery. Ms. Olena noted that a large number of things need to be prescribed at the level of legislation, including:

- how the process of rebuilding destroyed settlements is carried out: who and how makes decisions, according to what criteria, etc.;
- the issue of distribution of powers: the principle of operation of the Cabinet of Ministers of Ukraine, the State Agency for Reconstruction and Development of the Infrastructure of Ukraine, local self-government bodies;
- principles of reconstruction, in particular green restoration.

Nataliia Kozlovska, Deputy Minister of Development of Communities, Territories and Infrastructure of Ukraine, informed about the launch of the practical operation of the Urban Cadastre at the state level and the creation of a draft to replace the Housing Code of Ukraine.

«As of now, the registry administrator has been formed and we have started connecting local self-government bodies

to work with the Urban Cadastre. That is, we go into practical implementation. Thanks to everyone: both developers and local communities who helped us test the system, because it was a difficult path. But at the same time, we tried to make a product with the least number of errors,» noted Ms. Nataliya.

Thus, the Urban Cadastre will become the only source of available urban planning documentation — an analogue of the Unified electronic system in state construction, but for local self-government bodies.

The speaker also touched on the topic of the draft law that will replace the Housing Code — the draft law has been developed and sent to the government for consideration. In the specified draft law, a number of tools will be introduced that will contribute to the provision of housing for all Ukrainians.

Within the framework of this draft law, Nataliia Kozlovska commented on the issue of creating a social housing fund: «We understand that the issue of availability and formation of a social housing fund in the communal form of ownership is the next stage that our country will move towards. And you need to be ready for that.»

Mrs. Nataliia assured that the financing of compensation for damaged housing will continue in the next year as well. In particular, relevant agreements with the World Bank have already been signed. Separately, the deputy minister reminded that the more transparent the mechanism that allows you to see how funds are used, the easier it is to get funding.

She noted that in the nearest time they plan to submit the last edition of the State Construction Norms, in particular with regards to shelters and their evacuation exists.

Ms. Nataliia also informed that this year it is planned to make changes to about 10 State Construction Norms.

Oleksandr Novytskyi, the head of the State Inspection of Architecture and Urban Planning of Ukraine, spoke about the main achievements of Inspection during three years of work. In particular, he noted that the number of refusals to receive a certificate of facility commissioning decreased from 49% to 20%.

To increase the number of positive responses regarding the issuance of a certificate for putting the object into operation,

Inspection has developed a Memo for preparing objects for obtaining a certificate of acceptance into operation. It contains all the main structural and system elements of construction projects, to which special attention is paid when making a decision on issuing a certificate.

Also, the head of Inspection presented the new application «Transparent Construction», which digitizes the work of state control inspectors.

«This application will make the work of inspectors much easier and will be a safeguard against data manipulation. For the first time, the entire result of the inspection of the object will be published on the e-Construction public portal. Accordingly, there will be an effective public control over the quality of commissioning of facilities,» the head of Inspection emphasized.

Oleksandr Novytskyi reminded about the possibility that began to operate last year — online reception by the Inspection management. Every customer can apply to the Inspection through the official website by filling out a short form and making an appointment with any of the managers.

Yehor Farenjuk, director of the State Enterprise «Energy Efficiency Fund», spoke about the Fund's activities, development prospects and new programs. He noted that the Energy Efficiency Fund continues to accept applications in three static directions.

In particular, under the EnergoDIM program, the Energy Efficiency Fund issues grants for implementation of energy efficiency measures in the amount of up to 70% of costs. As of now, the number of applications has already reached 700, which is about 6.5 billion hryvnias.

«We hope that by the end of the year, the vast majority of these projects will be implemented,» said Mr. Yehor. — The program is difficult to operate without additional lending, without preferential loans — it is difficult for people to find an additional 30% now. However, currently we already have partner banks, so, co-owners of houses can get a loan at 13.5% per annum. It helps a lot to implement programs.»

The fund has already launched a simplified «B» package, which provides insulation of facades and roofs either



separately or together, and a light package that focuses on the modernization of engineering systems. Such modernization allows you to save up to 30% of heating costs and pays for itself in 2-3 years.

Also, starting from November 2022, the program Vidnovy-DIM (Restore Your House) is working — aimed at restoring destroyed multi-story buildings. The grant covers 100% of materials and works, which, according to Yehor Farenjuk, simplifies implementation a lot.

«And already in this program there are 755 applications for participation, 630 of which have been fully or partially fulfilled. More than 300 houses have already been completely restored. 70,000 families are included in this program, which is equivalent to approximately 200,000 Ukrainians, who can return to their homes and, thanks to synergy with other programs, completely restore their housing and the houses in which this housing is located,» informed the director of the fund.

In addition, in May 2024, a new GreenDIM program was launched, which helps ensure energy independence and energy security of multi-apartment buildings by installing solar stations and heat pumps. The program compensates for the cost of equipment.

In particular, 2 projects have been successfully completed, and another 38 are at the final stage of work. The pilot stage continues, and the next one — the main stage — will receive funding both this year and next one.

«We continue to accept applications for all our programs. We also hope for the further participation of donors in co-financing and continue to work actively,» concluded Yehor Farenjuk.

Tetyana Korotka, Business ombudsman deputy, emphasized the role of the construction industry for the economy of Ukraine and noted the positive impact of reforms that have affected the industry recently. In particular, the number of appeals related to the activity of the construction market decreased.

«We are an unbiased body that considers problematic issues faced by business in cooperation with the state,» said Ms. Tetiana. — In fact, the number of appeals related to the work of the construction market has significantly decreased. This is unusual because it is usually this market that is prob-

lematic in all international studies. However, statistics show such data.» Ms. Tetyana also announced the start of the work of the Council of the Business Ombudsman of Ukraine on recovery issues and invited all to further dialogue, in particular, on the issue of creating protective structures for critical infrastructure.

«We expanded our functionality with the subject of restoration. We have involved professional construction engineers in our team, that is, in case of the need to discuss technical issues that may arise in the process of interaction between developers, construction companies and the state, we will be able to give a more adequate assessment,» Tetyana Korotka emphasized.

She also noted the readiness of the Council of the Business Ombudsman of Ukraine to work on the openness of the market so that more and more private businesses and international companies are involved in the reconstruction.

Finnish partners of CBU — representatives of IHDA (“Integrated Hospital Design Alliance”) were also present at the event: Yukka Vasara, Rami Kolehmainen and Henry Pesonen.

They presented the activities of the Alliance and described the details of support for each stage of hospital design, planning and construction.

In particular, IHDA and CBU, in cooperation with the Ministry of Health of Ukraine and the Ministry of Community Development of Territories and Infrastructure of Ukraine, are developing a project of model hospitals, which will allow for the rapid restoration of the destroyed infrastructure. The International Federation of Red Cross and Red Crescent Societies IFRC and the European Investment Bank (EIB) act as supervisors of the project.

Traditionally, within the framework of the meeting of the CBU Board of Directors, the official acceptance of new members of the Confederation of Builders of Ukraine happened. They were presented by Oleksandr Rotov, the Chairman of the Board of Directors of CBU.

We will win and rebuild everything!

Thanks to the CBU press department for help in preparing the material



«SCHOOL OF CONSTRUCTION MACHINE OPERATORS» FOR WOMEN: CREATING NEW OPPORTUNITIES AND EXPANDING HORIZONS



The first «School of Construction Equipment Operators» in Ukraine aimed to women is launched. The project is implemented by ALEF STROY (ELITPROEKT-BUD LLC) on the basis of the Nemyshaiv Vocational College with the assistance of the Ministry of Economy of Ukraine and the support of the USAID Competitive Economy of Ukraine Program.

On August 5, the training of the first course of the ALEF STROY School of Construction Machine Operators began on the basis of the Nemyshaiv Vocational College. The goal of this project is to attract women to a traditionally male profession and create more conditions for realizing the potential of women on the labor market in the widest possible range of professions that may interest them. It is also one of the ways that will help Ukrainian companies to cope with the personnel crisis caused by the war.

According to the terms of the program, preference in competitive selection is given to women who want to master the profession of excavator and loader operator. However, men who wish to undergo retraining can also take part in the competitive selection. People from different regions of



Ukraine who have reached the age of 18 can join the training. At the same time, education, accommodation and meals are free for all participants thanks to the support and assistance of partners.

The first brave women began training on August 5, 2024. The group consists of 15 people who passed the competitive selection from more than 100 applicants. The course will last 9 weeks. In total, it is assumed that 75 people will be trained in five training groups. It is also indicative that practical classes on the management of special equipment will take place on modern construction equipment, in particular backhoe loaders, telescopic loaders, skid steer loaders and mini excavators. «The main goal of the program is to create such a training method that, thanks to the combination of the practical experience of the enterprise with the teaching staff of the educational institution, we will be able to teach a new specialty in the shortest possible time. The school is focused on women mastering a non-typical profession, because at the moment this is an objective necessity for Ukraine,» says Yuliia Skichko, head of the ALEF STROY company, the initiator and manager of the «School of Construction Machine Operators» project.



As a result of training, students will receive a state certificate of the National University of Bioresources and Nature Management of Ukraine, as well as pass an exam that will give the right to work on construction equipment. In addition, course graduates will have support from project partners in employment.

The official opening of the «School of Construction Machine Operators» took place on August 1. The event was attended by the Deputy Head of the Kyiv Regional State Administration, Lesya Karnaukh, and the Deputy Director of the USAID Mission in Ukraine, Teodora Dell, representatives of the «Business Woman Club» community, and experts from construction companies.

During the opening ceremony, Ms. Teodora Dell personally congratulated the future machine operators and noted their determination in times of challenges for Ukraine. Yuliia Skichko, head of ALEF STROY, presented the possibilities of the training program, the importance of its timely implementation and, together with the future operator Nina Lysenko, conducted a demonstration of construction equipment samples, which will be used for training.

In turn, the deputy head of the Kyiv Regional State Administration Lesya Karnaukh emphasized that the support of women's leadership, the creation and expansion of professional opportunities for women were always in the focus of the work of the team of the Kyiv Regional State Administration: «The idea of creating such a school was born at one of the meetings of the Council of Women Entrepreneurs under the Kyiv Regional State Administration Head leadership. We are always ready to support initiatives to help women who want to enter the labor market.» Ms. Lesya also expressed her confidence that the Nemyshaiv Vocational College will really be able to train future high-class operators, because professionals work here who invest not only their knowledge, but also their soul.

Volodymyr Alyokhin, director of the Nemyshaiv Vocational College, also thanked participants for their interest in the project, led a tour of the territory, presented the college, showed the participants and guests the conditions of the educational process, laboratories and residential campus. It is worth noting that the college on the territory that was under occupation in 2022 has been restored as much as possible and is already equipped for successful studies.

Undoubtedly, new times require new approaches. And such projects as the «ALEF STROY School of Construction Machine Operators» not only dispel stereotypes that the operator of construction equipment is a purely male profession, but also contribute to the reconstruction of the country. After all, the training of qualified personnel in such projects contributes to the restoration of the construction market, the creation of real opportunities for employment, the opening of private business by operators, and the support of the country's economy.



COMMENT



YULIIA SKICHKO,
head of ALEF STROY:

— *Construction equipment is an integral part of the reconstruction of destroyed objects and the construction of new complexes. It also plays a key role in logistics, the agricultural sector,*

landscaping and cleaning. That is why the profession «construction equipment operator» has always been, is and will be relevant. Unfortunately, today Ukraine is forced to fight for its independence and integrity. More and more men are involved in military professions, and a woman becomes a reliable support for the country, taking up men's business.

While some refuse to employ women in certain professions, we at the «ALEF STROY School of Construction Machine Operators» support girls in their choice.

Our goal is to provide equal opportunities for everyone, regardless of gender. That is why the promotion and implementation of the policy of gender equality of women among employers is an important component of the successful recovery of the country. It is important to understand that professional abilities and aspirations should not be limited by imposed gender stereotypes. Women can succeed in any field, including those previously considered male. In addition, equality in professional opportunities contributes not only to personal development, but also to the economic growth of the country. When everyone is able to fulfill their potential, we get more innovation, diversity of ideas and approaches to solving problems. We believe in importance of creating an inclusive work environment where everyone has a chance to succeed.

The educational program «School of Construction Machine Operators» will allow people without previous experience to learn a new profession for themselves. This is a real training camp, focused on developing practical skills on modern excavators and loaders, and the possibility of employment immediately after completing the course! We will win and rebuild everything!



TRAINING SEMINAR ON CURTAIN WALL FACADES AND POURED FLOORS IN ODESSA



Modern construction is constantly developing, integrating the latest technologies and materials that ensure high quality, durability and aesthetics of buildings. To stay at the forefront of innovation, industry specialists must constantly improve their knowledge and skills. It is also important to introduce new opportunities in construction to future personnel.

On June 4, 2024, the Odesa Professional Lyceum of Construction and Architecture became the venue for a seminar on modern technologies in construction. Prof Build magazine, Trade Union of Construction Workers of Ukraine "PROFBUD", companies BARKS, Würth — Ukraine and "DIVER LTD" held a training seminar on curtain wall facades and poured floors.

The event brought together leading experts, engineers, architects, builders and students to share knowledge and experience in this important field. During the seminar, participants had an opportunity to familiarize themselves with the latest developments and technologies, discuss current problems and find optimal solutions to improve the efficiency and quality of construction works. In addition, they got a unique opportunity to ask their questions to experts, take part in practical classes and establish new business contacts.

Taisia Abozina, deputy director of the Department of Education and Science, was among the invited guests. In her welcome speech, Ms. Taisia emphasized that, despite the current challenges, air alarms and missile threats, teachers and masters of industrial training at technical vocational education institutions continue to prepare future personnel for reconstruction. «In Odesa region, we have 10 VET institutions specializing in construction, 10 educational and practical centers have been opened in the fields of construction professions.

And these are modern platforms for acquiring practical skills not only for graduates of secondary schools, but also for the adult population. It is good that the Odesa Vocational Lyceum of Construction and Architecture occupies a leading position not only in the education system of the region, but also in Ukraine. Sincere thanks to the director of the institution Ihor Chernenko and the entire team for creating proper and safe conditions for those seeking education, participation and victories in projects and competitions, support and indifference in wartime conditions,» said Taisia Abozina.

Ihor Chernenko, director of the Odesa Vocational Lyceum of Construction and Architecture, also thanked participants for their interest in the event and expressed hope for further cooperation of the companies regarding the possibility of employment for young construction specialists who are currently acquiring a profession in the regional vocational and technical schools. «Combination of educational institutions and production will allow us to rebuild our state in the future





with modern approaches. For my part, I want to assure you that our educational institution implements as much as possible new information and computer technologies, conducts complete general secondary education and guarantees high professional training, modern service, unforgettable student years. Instead, training seminars of this kind are extremely important for professional development of construction industry specialists. They contribute to improvement of qualifications, help in the implementation of innovative solutions and ensure high quality of construction works. Curtain wall facades and poured floors are not just technologies, but complex systems that require deep knowledge and the ability to use them correctly. Therefore, we thank all the participants of the seminar once again for the opportunity to learn about the latest construction solutions, as well as for the opportunity to further cooperate with leading companies on improving technical base of the lyceum, which will meet all the standards and requirements of European vocational education. We are getting closer to victory together!», concluded Mr. Igor.

The working part of the seminar was divided into three parts, and the speakers took part in it:

- Valeriy Kotlyar, founder and head of the BarkS company;
- Roman Visarion, consulting engineer of the Würth-Ukraine company;
- Lyubov Dudnyk, director of «DIVER LTD».

Today, BarkS products are used in many shopping, entertainment, commercial and office centers, supermarkets, private homes, restaurants, hotels, stadiums and other facilities. The key area of the company's activity is development and production of Ukrainian energy-efficient aluminum solutions for construction, namely: curtain wall facades, transparent protective structures, glass partitions, solar slats, ventilation grills. During his speech, Valeriy Kotlyar gave a general overview and talked about the advantages of using curtain wall facades, types and elements of frames for such facades and their differences, insulation elements and facing materials for facades and their features, techniques for processing facing materials, etc.

The next speaker was Roman Visarion who presented advanced technologies, tools and fasteners manufactured by the

company and which can be used for installation of facades, and also spoke about the role of highly qualified engineers for the best possible result. In particular, Würth-Ukraine is a subsidiary of the German concern Adolf Würth GmbH & Co. KG. Since 1993, the company has been supplying Ukraine with high-quality materials and tools of a professional level for repair work, installation and maintenance of production equipment, as well as for repair and maintenance of automobile and cargo transport, agricultural and cargo machinery.

Lyubov Dudnyk presented the technology of poured floors and talked about her company's work. The main type of DIVER LTD activity is production and sale of Koutex® polymer compositions. The speaker also noted that Koutex polymer compositions are used not only for the production of poured floors and repair and restoration works, for metal and railway structures, as adhesive and strengthening material, etc., but also for reproduction of extraordinary design solutions in creating an interior and furniture, fiberglass products.

After the event, the participants had a chance to look at the school's classrooms and educational and production workshops.

Another good deed done! Let's move on!



TRAINING SEMINAR ON CURTAIN WALL FACADES IN RIVNE



Today, educational and practical seminars are gaining more and more importance both for teachers and students, as well as for business. Such events provide a platform for the exchange of relevant knowledge, skills and experience between business and educational institutions, help to bridge the gap between theoretical knowledge and practical skills. Thanks to participation in seminars, teachers have the opportunity to update their knowledge in accordance with changes in the market, and students - to better understand the realities of the business environment, develop professional competencies and increase competitiveness in the labor market.

On September 5, 2024, an educational and practical seminar on curtain wall facades was held on the basis of Higher Vocational School No. 1 in Rivne for training masters and teachers of vocational and technical educational institutions in the construction industry of Ukraine. On this day, the school became a kind of educational hub for training masters all over Ukraine. Among the seminar participants were representatives from 11 regions and the city of Kyiv.

The organizers of the event were the Prof Build magazine, the PROFBUD Trade Union of Construction Workers of Ukraine, the companies Barks, Würth-Ukraine and «KM-IMPORT».

The main goal of such seminars is cooperation and consolidation of efforts for the development of informal professional education in the construction industry, providing the necessary theoretical and qualification skills to the training masters and teachers of special disciplines in the construction field in vocational and technical education schools, and familiarization with modern technologies in construction.

Ihor Stryzheus, director of the institution where the seminar took place, Mykola Shershun, head of the Federation of Trade Unions of the region, Vasyl Andreyev, head of the Trade Union of Construction Workers of Ukraine, Nataliya Polishchuk, head of the regional organization of the trade union of construction and building materials industry, training masters of the Rivne region VET schools and employers took part in the event.

Both the organizers and participants of the seminar were united in the statement: after the victory, Ukraine will face many years of reconstruction, the volume of which the construction sector has never seen during the years of independence of Ukraine, therefore the need for qualified workers in the construction industry on the labor market and the need to modeling of the future process of restoration, construction and modernization of civil infrastructure and housing destroyed as a result of the full-scale Russian military invasion of the territory of Ukraine increases.

In his welcoming speech, Ihor Stryzheus, director of the Higher Vocational School No. 1 in Rivne, thanked the attendees for their interest in the event and expressed the hope that such training seminars will become a good tradition when business and education work together for the future of Ukraine. After all, according to Mr. Igor, the goal of the community of Higher Vocational School No. 1 in Rivne is to increase the efficiency of its educational activities and ensure a consistently high level of personal training at all levels of education, and on this basis, to raise the educational and professional training of graduates to a qualitatively higher level. Also, the main task of Higher Vocational School No. 1 in Rivne for the coming years is to introduce into the educational process innovative technologies and methods of professional training with the use of modern production technologies, machinery, equipment, tools and materials through the high-quality organization of the work of educational and practical centers.



Mykola Shershun, head of the regional Trade Union, addressing the participants of the seminar in his welcoming speech, said: «After the Victory, Ukraine will be rebuilt by your students. Builders are already one of the most demanded professions today. And the study and implementation of the most modern world technologies is a requirement of the time. I wish you fruitful work, a productive day. Let everything succeed.»

Also, the head of the regional Trade Union emphasized that at the stage of the country's reconstruction, it is important for there to be close cooperation and partnership between the state and business to achieve greater productivity and quick implementation of the intended goals.

The training program of the seminar included several topics:

- Technology of curtain wall facades, types of frames for curtain walls and their differences.
- Facing materials for curtain wall facades and their features; tools and equipment for installation and processing.
- General-purpose fasteners, which are used for the installation of curtain wall facades.
- Adhesive system for curtain wall facades, «BOSTIK» sealant and glue.

During the event, Valeriy Kotlyar, director of the BarkS company, handed over the first educational posters on curtain wall systems to Higher Vocational School No. 1 in Rivne, Zdolbuniv Higher Vocational School of Railway Transport and Regional Vocational Education Center for Innovative Technologies of Construction and Industry in Kharkiv. In addition, in his speech, Mr. Valery explained in detail the main points of the technology of curtain wall facades and drew the attention to the practical aspects of their use.



The next speaker was Victor Zhynzher, marketing manager of Würth-Ukraine, who introduced the audience to issues of general-purpose fasteners used for the installation of curtain wall facades.

The third participant of the event was Valeriy Voloshyn, director of KM-IMPORT LLC, who presented the adhesive system for curtain wall facades, BOSTIK sealants and adhesives and provided useful information on their use.

After the end of the event, the participants saw the study rooms and educational and production workshops of the school.

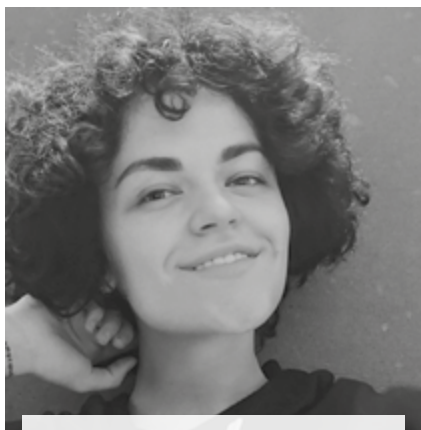
It is nice to note that the seminar became a platform for gaining new knowledge, exchanging experiences and making new acquaintances. Let us move on and bring Victory closer together!



MASTER'S QUALIFICATION WORK «Renovation of an industrial object into a multifunctional complex (based on the example of the chernivtsi woodworking plant)»

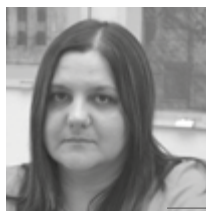


Project author:



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Alona Chybotar

Supervisor:

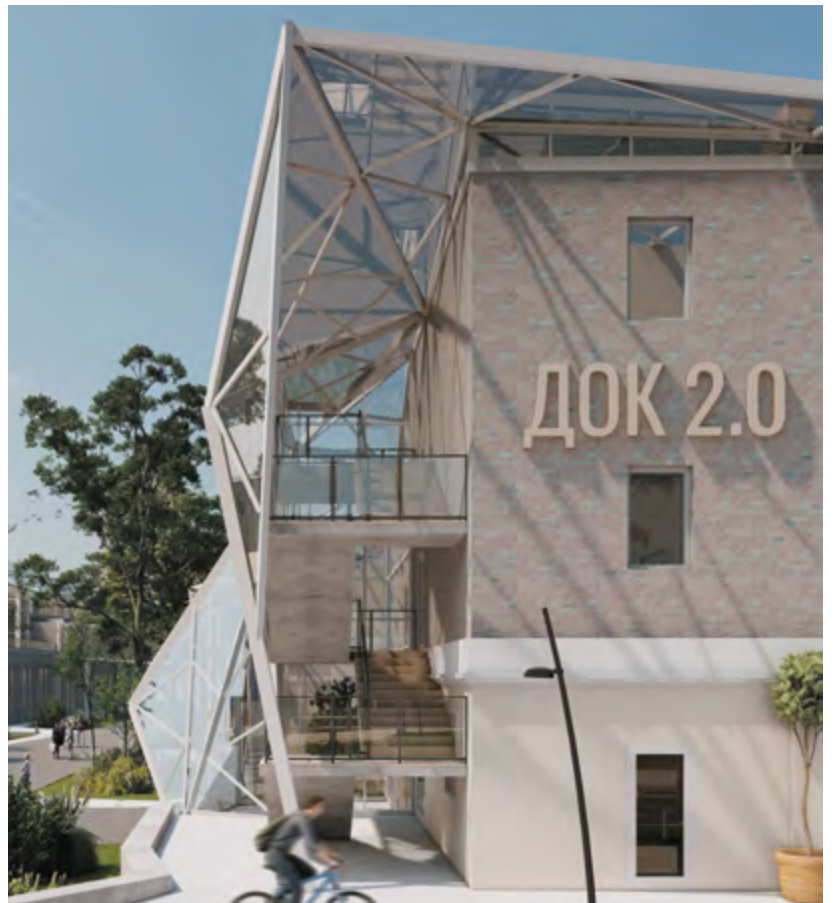


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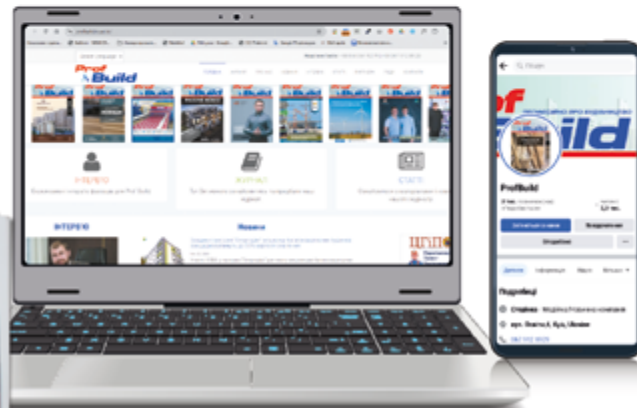
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