

CONSTRUCTION

SECTORAL REVIEW



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ABSTRACT

Construction sector - unites a wide range of industries that are equally dependent in their activities and interact to produce construction products and building materials, design and train relevant personnel in the sector. Its members include:

- construction companies;
- enterprises that produce construction materials and equipment;
- design organizations that provide research and development work for the sector's industries;
- state and regional regulatory authorities for construction relations;
- specialized educational institutions.

The construction sector includes financial mechanisms that provide access to credit resources for enterprises to implement investment projects, which mostly involve construction work - from designing and building a new enterprise to installing new equipment and repairing office space. It is access to financial resources of enterprises in other sectors of the economy that affects the intensity of development of the construction sector.

It is important to note that construction products include engineering structures, residential and non-residential buildings. In terms of the structure of construction work performed, the sector reflects the specifics of the region's economy - the industrial center of Ukraine - as most construction work is carried out for the industrial sector.

At present, the development of the sector depends primarily on the situation in the economy and security sector. The last year of war in Ukraine

has had a significant impact on all sectors of the economy, including the construction sector in the region. In the pre-war years, the volume of products sold by construction companies in the region increased by a quarter every year. However, the military aggression against Ukraine effectively halted the sector's operations in the first half of 2022, leading to a 50% decline in production. At the same time, companies in the sector have shown great flexibility and adaptability to change. This is confirmed by the fact that the construction sector has maintained a level higher than in the crisis years of 2015-2016. As of the end of 2022, the volume of residential construction reached the average level for the last 5 years. Last year, 182 m² of residential real estate was commissioned.

The sector is home to 6,365 enterprises that employ 46.1 thousand people. The average salary is \$517. By the end of 2022, almost half of all capital investments in the Dnipropetrovsk region (\$1.9 billion) were directed to construction, and this trend has continued even during the war. Almost a third of these funds were invested in the development of the region's infrastructure from the state and local budgets.

According to a study conducted with the assistance of the USAID Economic Support for Ukraine Project (USAID Project), almost 15% of Ukrainian construction materials producers have been affected by Russia's aggression, but the sector is capable of providing up to 90% of the necessary materials for the country's recovery.

The hostilities in Dnipropetrovsk region have already damaged more than 5,500 residential and

industrial facilities. About 500,000 refugees who have taken refuge in Dnipropetrovsk region will need housing, as most of them have seen their entire cities destroyed by the aggressor's military actions.

The construction sector will be a key tool in rebuilding Ukraine. After all, entire cities, engineering infrastructure and industrial enterprises will need to be rebuilt. Today, we are already talking about a large-scale modernization of the life support systems of cities and the social infrastructure of Ukraine, from power grids to houses, schools, hospitals and comfortable public spaces, cultural monuments and security zones.

The country's rapid recovery requires a technological economy based on modern construction and industrial sectors. However, achieving a high multiplier effect, when each hryvnia invested in construction increases due to the close relationship of the construction industry with other sectors of the economy, is possible only if domestic products are predominantly used. The current average of 40% of imports indicates that public investment, including in housing construction, will be almost half of it abroad.

The priority in the construction sector will be to restore domestic production of construction materials. The construction of industrial facilities in this sector will help to reduce the share of imports in construction products rather quickly, which will allow launching economic recovery projects.

CONSTRUCTION. MANUFACTURED PRODUCTS

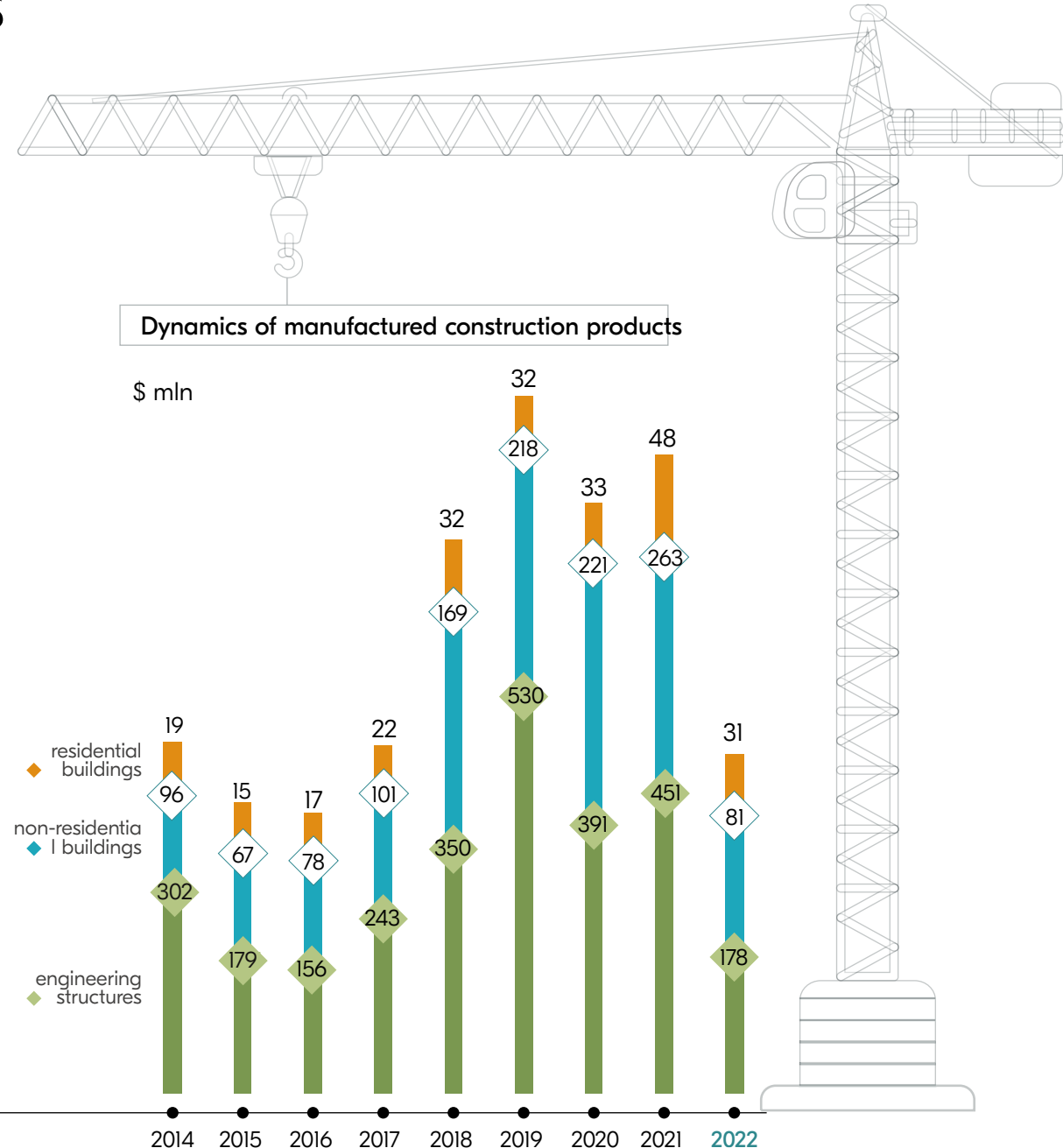
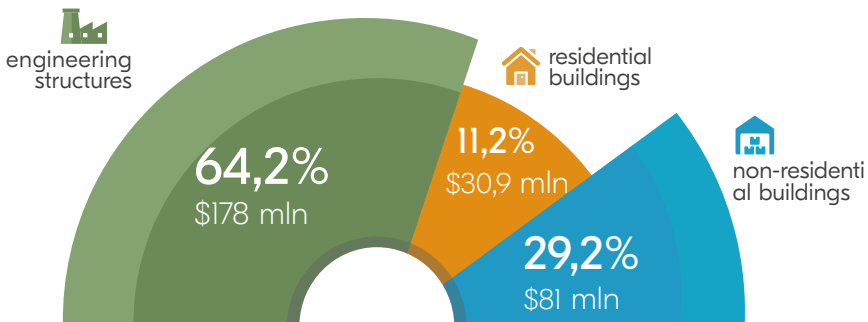
Dnipropetrovsk region accounts for almost 12% of Ukraine's construction products market (\$277.1 million). This figure ranks the region 3rd in Ukraine. Companies in the sector have demonstrated high adaptability to the war and the set of crisis circumstances it provokes, which has helped keep the sector above the crisis levels of 2015-2016.

With the outbreak of military aggression in February 2022, the construction sector focused exclusively on the construction of fortifications. The decline in production amounted to 65.4%, the highest among the region's economic sectors.

In the second half of 2022, after the aggressor was stopped and part of the temporarily occupied territories of Ukraine was liberated, the construction sector resumed operations. In terms of housing construction, the sector has reached the average indicators of recent years.

Engineering structures traditionally lead in the structure of construction products with a share of 64.2%.

Структура виробленої будівельної продукції



CONSTRUCTION. FOREIGN ECONOMIC ACTIVITY

The foreign trade turnover of the construction sector, at \$988.3 thousand, proportionally decreased by 65.4% in line with the volume of construction products produced.

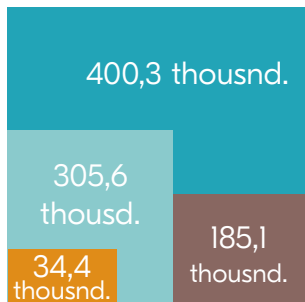
The construction sector is characterized by a low level of participation in the region's foreign trade, regardless of crisis or security circumstances. This indicates that the sector is mostly focused on the domestic market.

At the same time, the relocation and entry of construction companies into the EU market has significantly increased some export positions of the construction sector:

- construction works abroad increased by 172%;
- preparatory work abroad for construction, increased by 246%.

The government is currently creating the conditions for Ukrainian construction products to fully enter the EU markets. On January 1, 2023, the Law of Ukraine "On Placing Construction Products on the Market" came into force, implementing the provisions of Regulation (EU) No. 305/2011 into national legislation and introducing new requirements for construction products. The new conformity assessment procedures for construction products will bring their quality closer to European requirements. As a result, consumers will receive safe and high-quality domestic products, and manufacturers will be able to enter the European market.

EXPORTS OF CONSTRUCTION \$925,3 thousand.



0,6% from the region's exports
 3,5% from the all-Ukrainian indicator

Construction in Ukraine to order by non-residents

- Construction works

Виробництво за кордоном

- Construction works
- Installation works
- Preparatory for construction works

Exporting countries:

- Moldova
- Lithuania
- Slovakia
- Poland
- Bulgaria
- USA

IMPORTS OF CONSTRUCTION \$63 thousand.



0,04% from the region's imports
 0,4% from the all-Ukrainian indicator

Ordering of construction from non-residents abroad by enterprises of the region.

- Installation works

Importing Countries:

- Switzerland
- Slovenia
- France
- Poland
- Sweden

CONSTRUCTION. INVESTMENTS

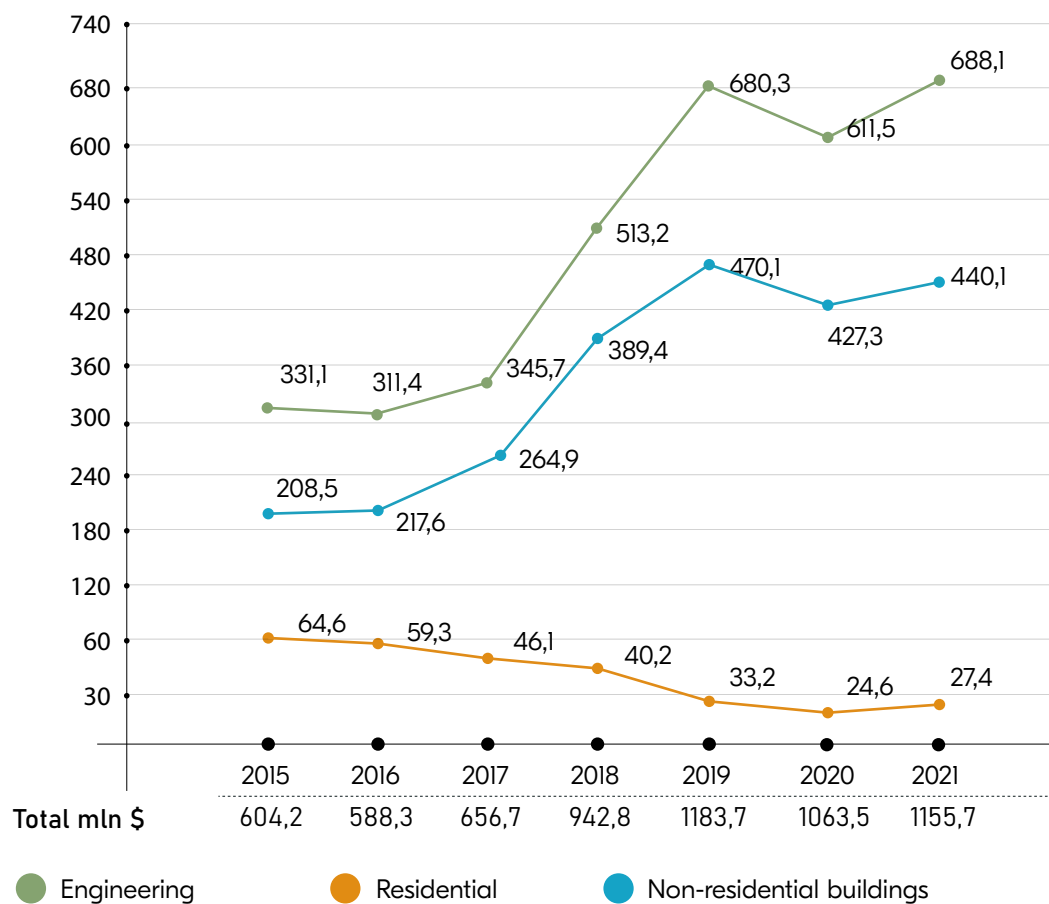
The construction sector is a key tool for implementing investment projects of the region's enterprises. Specifically, 49.4% of capital investments are directed to construction works.

At the same time, the intensive nature of the region's development is demonstrated by the areas of investment, of which 97.6% are directed to engineering structures and non-residential buildings, including logistics infrastructure, industrial facilities and life support facilities.

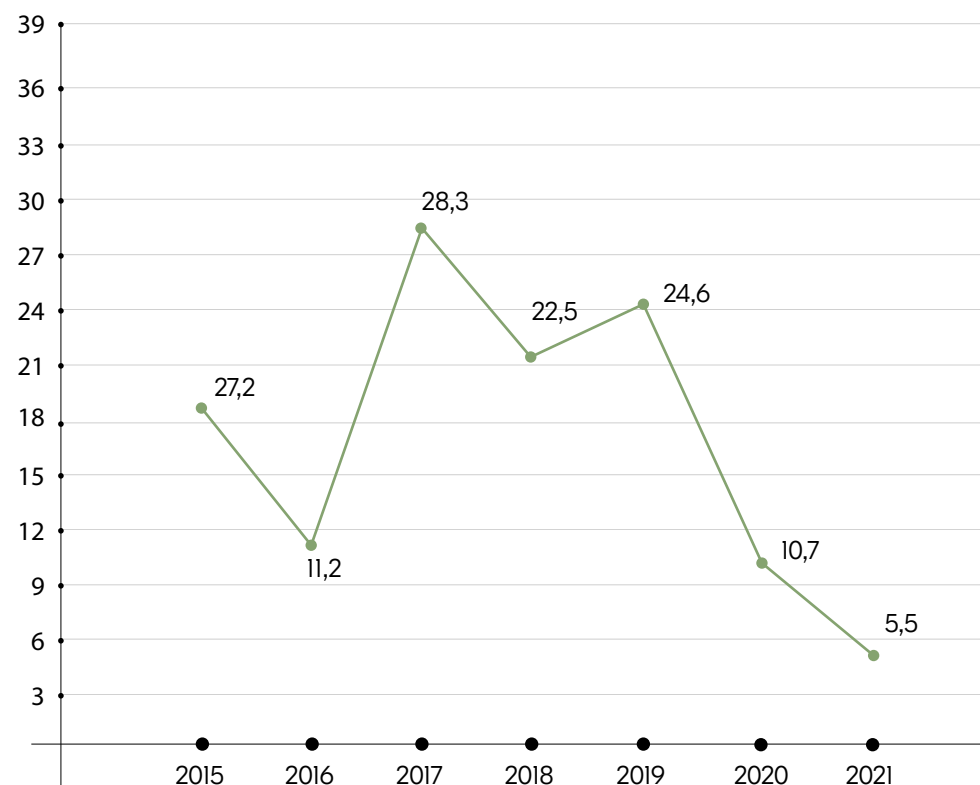
At the same time, the construction sector has been experiencing a decline in foreign investment for a long time. At the same time, this sector contains some of the top priorities for investment:

- float-glass;
- polymer-coated sheet steel.

Dynamics of capital investment in the production of building materials, \$ mln



Dynamics of direct foreign investment in the production of building materials, \$ mln



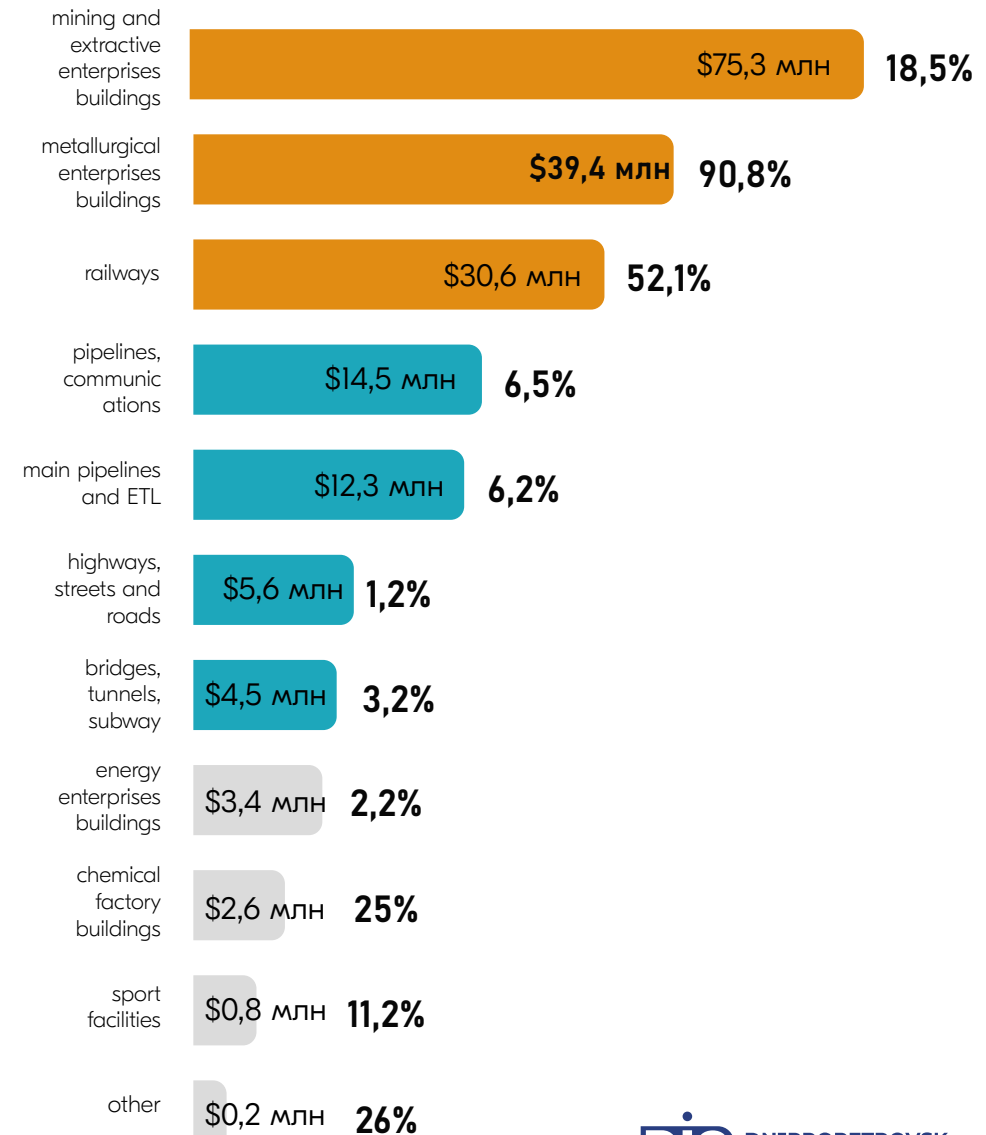
CONSTRUCTION. ENGINEERING STRUCTURES

Despite a 60.5% decline in the volume of construction output in the field of engineering structures, the leaders in terms of the types of such structures remained unchanged. These include buildings of mining and quarrying companies and metallurgical facilities. Companies took advantage of the forced downtime caused by the aggressor's blocking of logistics routes and the destruction of energy infrastructure and directed their activities to capital investments.

Dynamics of engineering structures construction, \$ mln



Structure of commissioned engineering structures, \$ mln and percentage of total national production



CONSTRUCTION. NON-RESIDENTIAL BUILDINGS

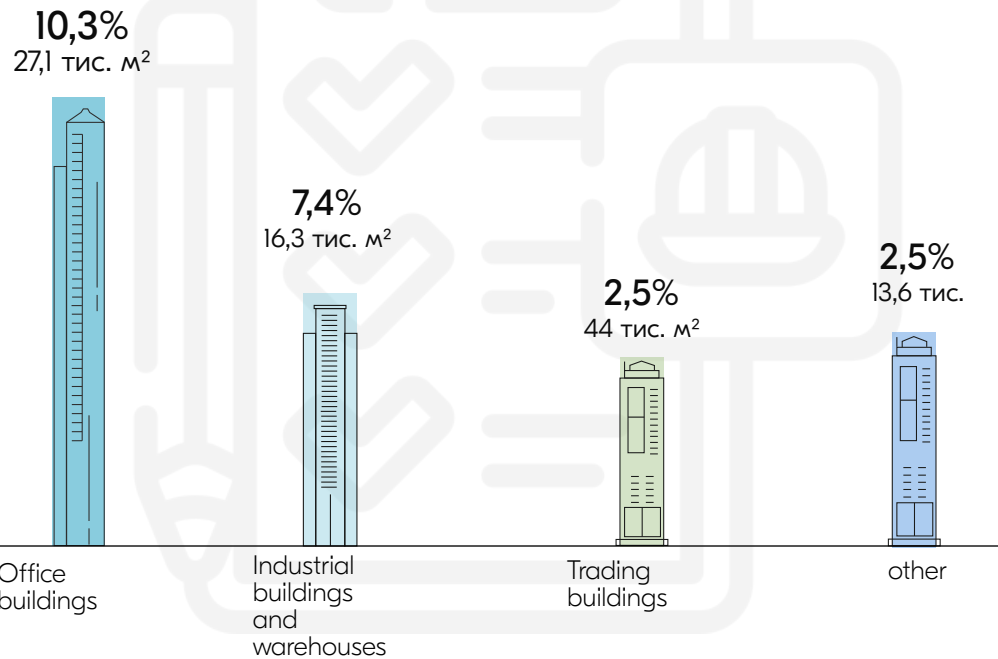
The region ranks second among Ukrainian regions in terms of non-residential buildings with an area of 63.3 thousand m². The decline in this area of construction was the largest - by 69%. At the same time, one of the leaders in this area, the construction of office buildings, has a 10.3% share of the total construction of these facilities in Ukraine.

The average cost of non-residential construction is 1158,8 \$/m².

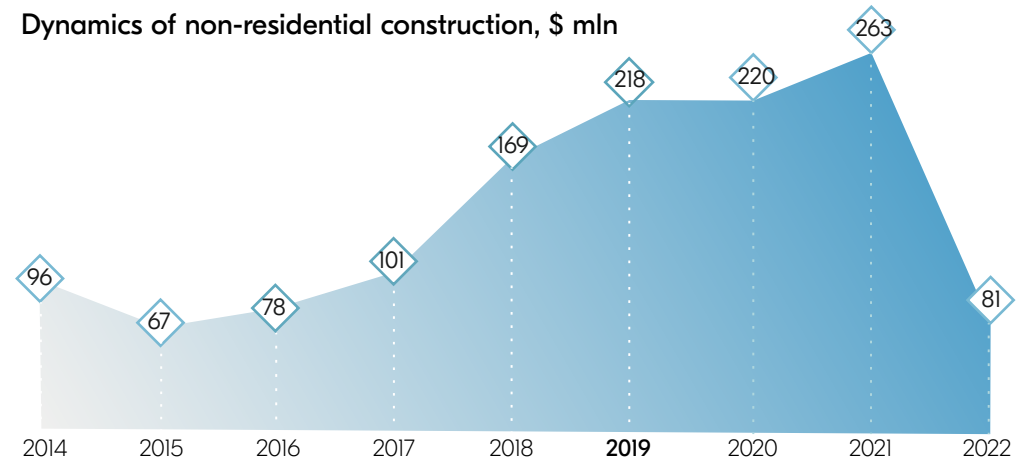
The suspension of investment activities by industrial enterprises in the region due to military aggression against Ukraine had a significant impact on the volume of industrial construction, which has traditionally been a leader in non-residential construction. The decline reached 82%.

Office buildings and business centers are the leaders in non-residential construction. This area of construction in the region accounts for 10.3% of the total construction of such facilities in Ukraine. Increased demand for office space is driven by the formation of a humanitarian hub in the region. About 50 international organizations operate in the territory of Dnipropetrovska oblast, aimed at assisting internally displaced persons, rehabilitating the wounded and victims of the aggressor's criminal actions.

Structure of put into operation non-residential buildings



Dynamics of non-residential construction, \$ mln



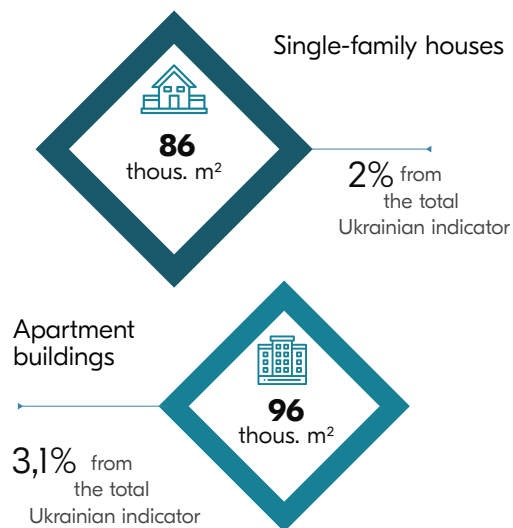
CONSTRUCTION. RESIDENTIAL BUILDINGS

Residential construction showed the most stable performance in 2022. The area of residential buildings amounted to 182 thousand m², and the decline in the volume of products sold in the residential sector was only 35%. At the same time, the volume of construction products sold remained at the average value of recent years and amounted to \$30.9 million.

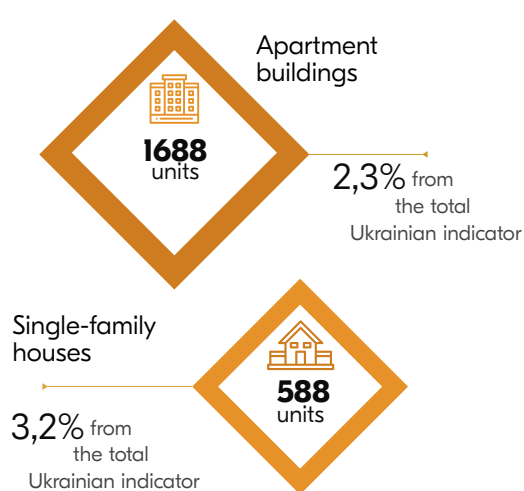
The average cost of residential construction is \$1000 per m²/\$.

Structure of housing construction

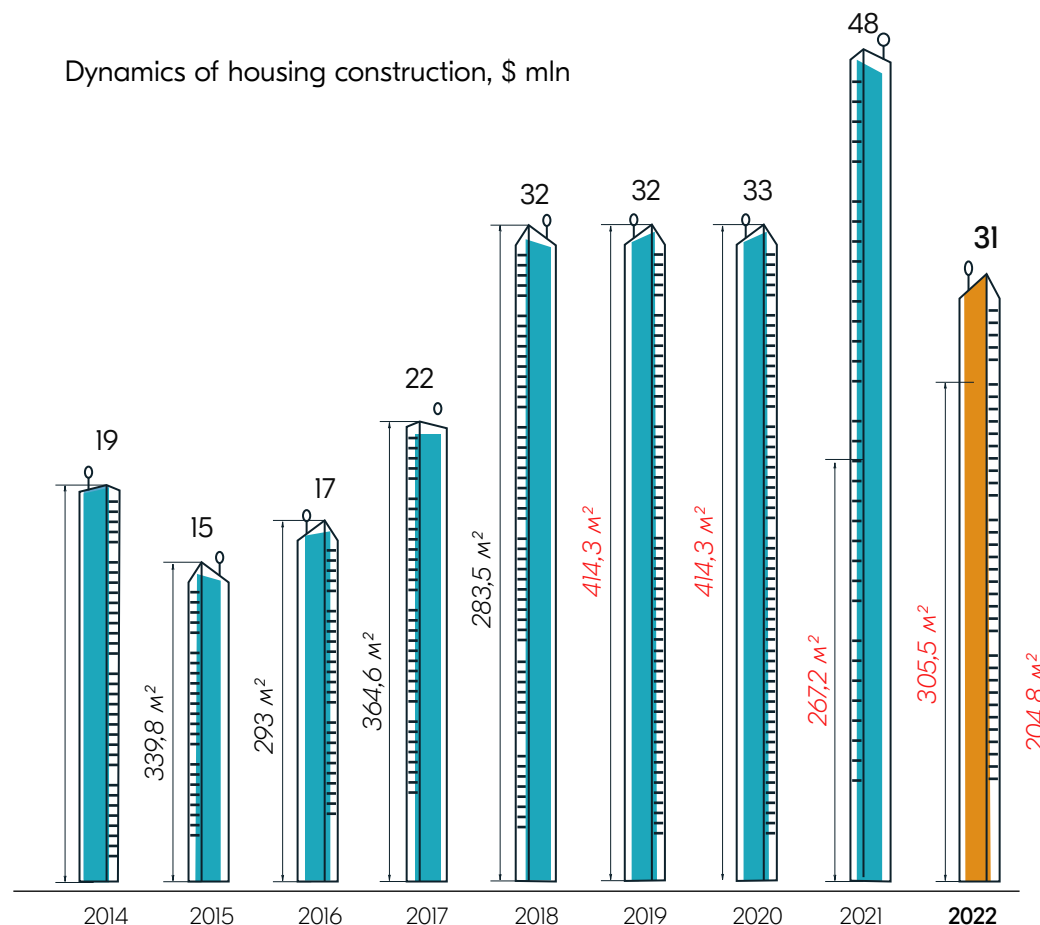
By area



By quantity



Dynamics of housing construction, \$ mln



CONSTRUCTION. GOVERNMENTAL SUPPORT



In May 2022, the German development bank KFW resumed the allocation of funds for the issuance of loans for apartments or houses for internally displaced persons. This program was active even before the invasion of the Russian invaders. The first installment for IDPs is 6%, the loan rate is 3% per annum. You can apply for participation in the program through the "DIIA" portal. You can also contact the regional branch of State Housing.



Оселя

In October 2022, the updated state mortgage program "eOselya" became operational. It allows you to purchase housing at an interest rate lower than the NBU's discount rate and the rate of inflation. Currently, military personnel, doctors and educators can take out a loan for the purchase of housing. For them, the rate is 3% per annum. From 2023, "eOselya" will be extended to all Ukrainians who meet the requirements of the program. The 7% rate will apply to them. The first payment is 20% of the cost of the apartment.



State Youth Housing has significantly updated the mechanism of mortgage lending to young people. Since February 1, such loans have become much more profitable for young families. The credit term is up to 20 years. The first contribution of the family is 6% of the cost of housing. For borrowers who do not have children - 7% per annum (previously 3%, which was changed by law);

The borrower who has 1 child is exempt from paying interest for using the loan;

The borrower, who has 2 children, is repaid 25% of the amount of the loan obligations at the expense of budget funds;

The borrower who has 3 or more children is repaid 50% of the amount of the loan obligations.



Preferential long-term lending by Dnipropetrovsk Regional Fund to support individual housing construction in the countryside. This lending is provided for by the Program of Socio-Economic and Cultural Development for 2023, approved by the decision of Dnipropetrovsk Regional Council No. 232-14/VIII dated November 25, 2022. The main goal of the Program is to solve the housing issues of the rural population, through the provision of long-term loans at three percent per annum for the following purposes and within the following limits:

- new construction of residential buildings up to UAH 400,000
- for housing reconstruction and modernization up to UAH 250,000
- for the purchase of housing in rural areas up to UAH 300,000
- for the construction of engineering networks up to UAH 100,000

CONSTRUCTIONAL MATERIALS. PRODUCTION



The volume of sold construction materials in 2022 amounted to \$219.5 mln.

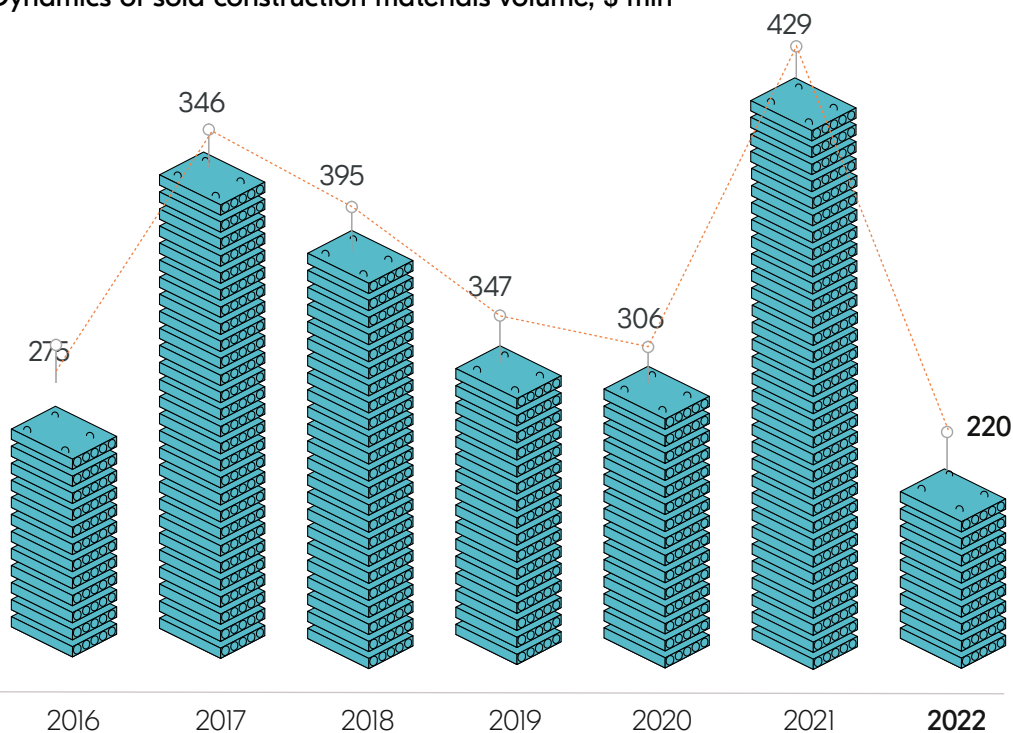
The share of Dnipropetrovsk region in the volume of the construction materials market of Ukraine is 11.7%

The decrease in the volume of construction materials production amounted to 48.8% compared to the previous period.

Enterprises of the region produce crushed stone, reinforced concrete and metal structures, wallpaper, dry mixtures, insulation and roofing materials and ceramic products.

Despite the drop in production, the region concentrated on the production of certain types of construction materials, in which Dnipropetrovsk region occupies a significant share of the Ukrainian market:

Dynamics of sold construction materials volume, \$ mln



49,6% varnishes and



20,1% windows and doors, plastic and aluminium glass units



12% construction sands



9,7% brick and concrete blocks



CONSTRUCTION MATERIALS. FOREIGN ECONOMIC ACTIVITY



The industry is represented by a wide range of foreign and domestic companies investing in the creation of new innovative types of products.

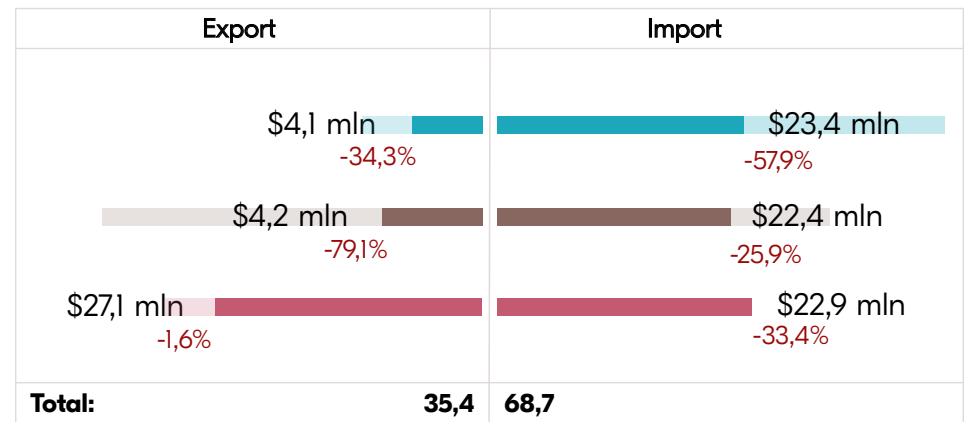
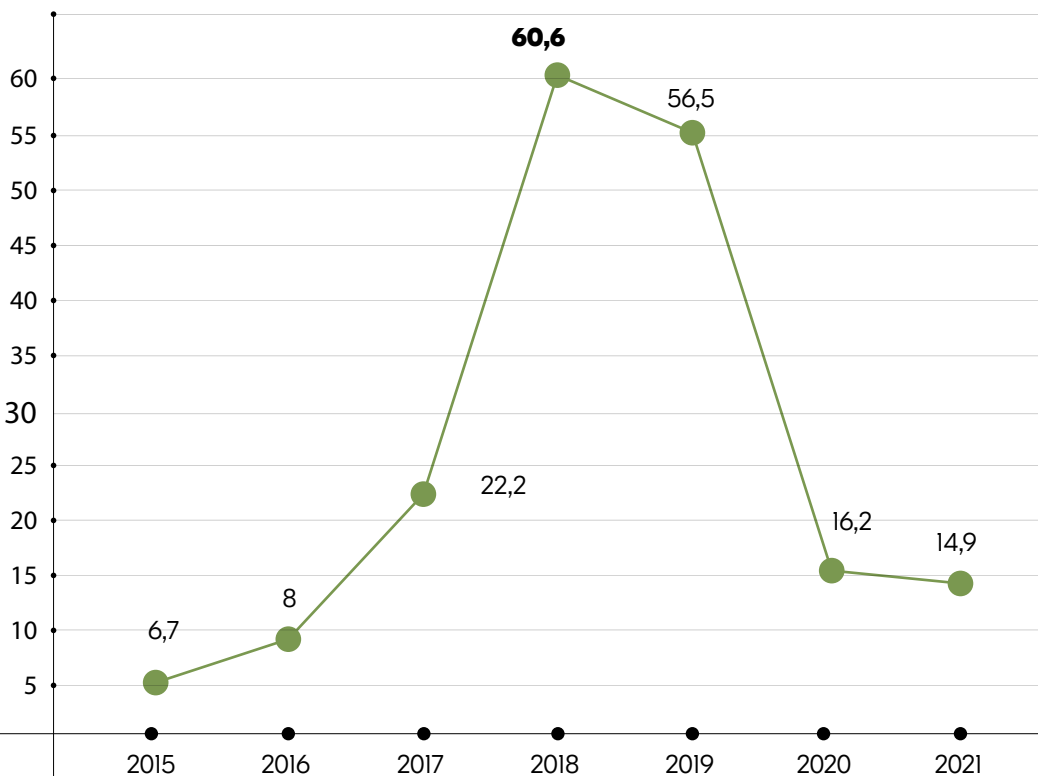
During 2021-2022, the company Intercerama built a new workshop for the production of ceramic granite with a capacity of 5.5 million square meters per year, and invested in the production of tiles with a thickness of 6 to 12 mm and sizes within 1200 × 2400 mm.

In 2022, the company AXOR Industry invested \$11 million in the construction of the window and door fittings production.

During 2021-2022, the company Glas Trösch Ukraine continued the modernization of production in the city of Kamianske. The total amount of investments for the indicated period amounted to \$1 million. The company's products - double-glazed windows, are one of the key elements in restoration projects

Despite all the difficulties of working during martial law, in 2023 the company Miroplast will invest in improving and increasing capacities. The investment involves the installation of three new extruders.

Foreign trade of construction materials has a pronounced import-dependent character. The share of imports reaches 29.8% of the volume of construction materials sold by regional companies.



- Articles from stone, gypsum, concrete
- Ceramics
- Glass and glassware



ARCHITECTURE AND ENGINEERING.

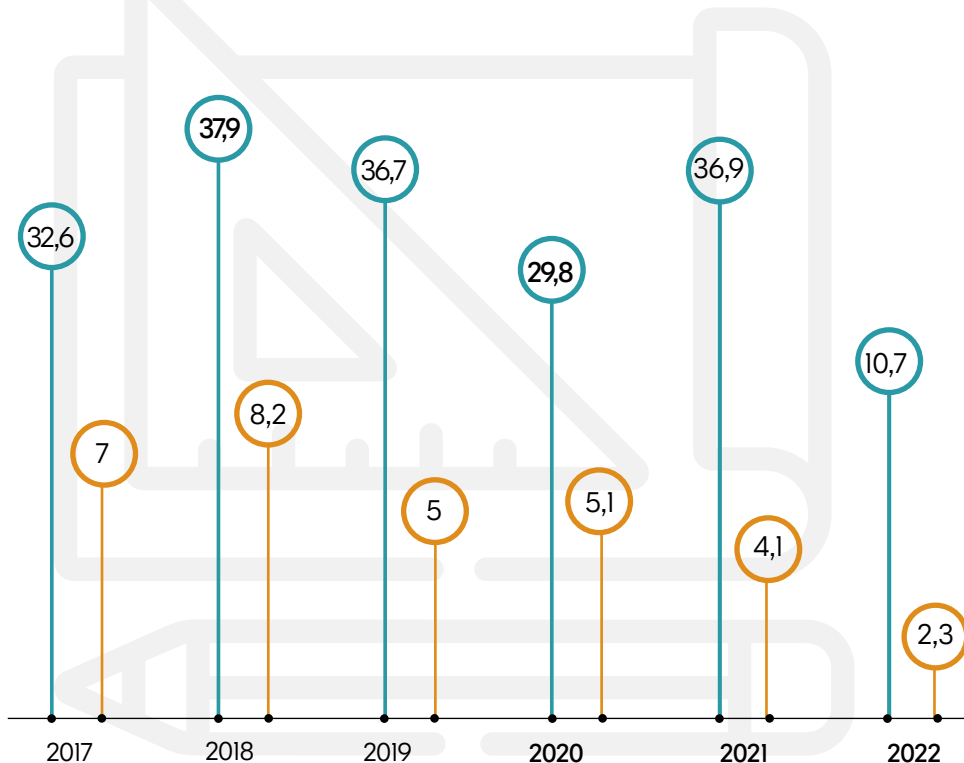
Engineering companies of the Dnipropetrovsk region, which are engaged in the design of buildings and structures, have both a wide range of design works and are focused on a certain branch of the economy. In particular, the largest engineering companies in Ukraine are located in the region, which design enterprises in the mining and chemical industries, metallurgy, agricultural industry, and transport infrastructure. Engineering includes the provision of planning and engineering design services in the construction of structures and buildings in various sectors of the economy, support systems for these facilities, as well as activities in the field of geodesy.

The statistical authorities provide information on engineering as a whole, without a breakdown by specified areas (ie engineering in construction, mechanical engineering, electrical engineering, etc.).

Engineering services in the region occupy 9% of the Ukrainian market. 1,701 design engineers (10.2% of the all-Ukrainian indicator) and 392 experts (7.2% of the total number in Ukraine) were certified in the region. Regional architectural studios and bureaus make up 5% of the Ukrainian market for these services, and are focused on the renovation of community areas, the transformation of cities, and providing comfortable living conditions, including within the framework of recovery programs.

The priority for the development of the industry is the transition to design in accordance with world practice, using the latest software products and based on EUROCODE standards (European construction standards).

Dynamics of architecture and engineering services, \$ mln



Інжинірингові компанії:

- Danieli Heavy Machinery LLC
- Firefly Aerospace Ukraine
- SKODA TRANSPORTATION UKRAINE LLC
- State Enterprise "Ukrainian Institute for the Design of Metallurgical Plants"
- "Design Institute "Pridneprovsky Promstroyproekt«
- MDC Company

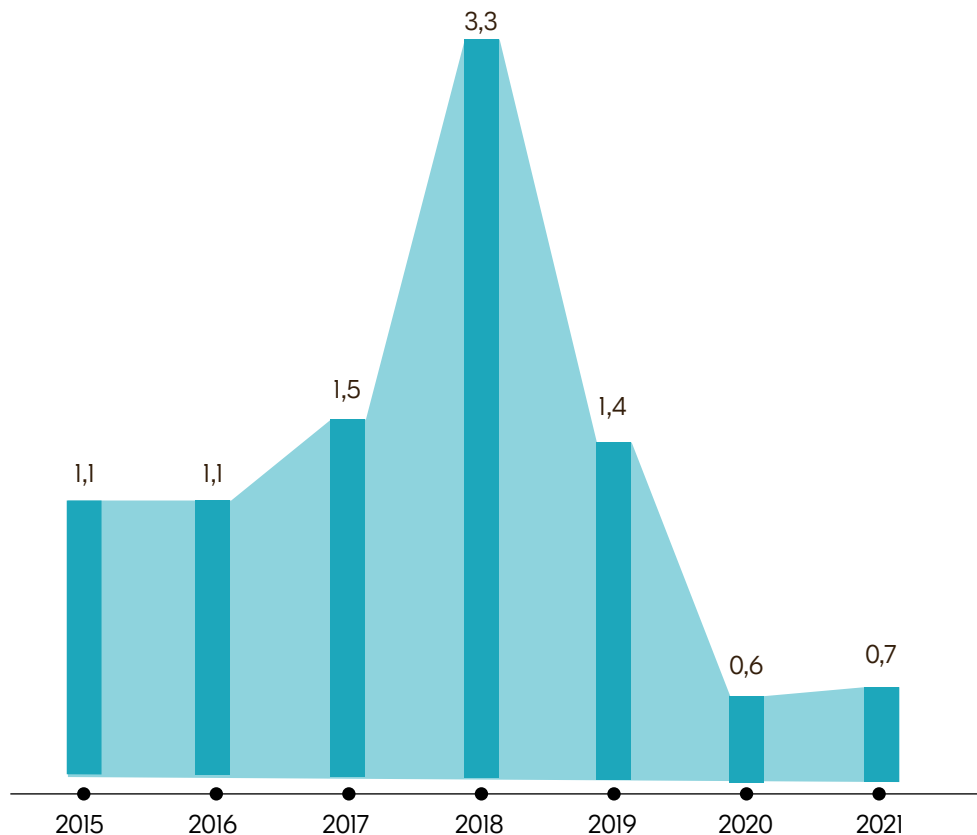
Архітектурні компанії:

- Architectural company "Mart"
- Alef Estate Company
- JSC "NVO "SOZIDATEL"
- LLC "BUD INDUSTRY"
- TT architectural workshop
- IDEOMA architecture studio
- Architectural and design studio «Gratage-Visual»
- Home Transformer
- LLC "ARCHITECTURAL AND CONSTRUCTION FIRM "ROZVYTOK"

ARCHITECTURE AND ENGINEERING. FOREIGN ECONOMIC ACTIVITY

The relevance of the architecture development is reinforced by the need for both reconstruction and the formation of modern, updated Ukrainian cities within the framework of recovery programs. These trends require investments in the fields of architecture and engineering, as well as the involvement of modern innovative design technologies.

Volume of capital investment in architecture and engineering, \$ mln



At the same time, the foreign trade balance in the field of engineering is positive, which indicates the flexibility of companies in the region, which in the conditions of the shutdown of the construction sector in Ukraine, due to military aggression, reoriented their services to foreign markets. After all, all 58 parts of EUROCODE are in force in Ukraine, which allowed the companies of the region to carry out design activities in accordance with construction standards harmonized with EU regulatory documents.

This fact simplified the access of Ukrainian designers to the EU market.

-27% Compared to the year 2021

Export
\$10,3 mln

-92,8%
Compared to the year 2021

Import
\$1,2 mln

CONSTRUCTION SECTOR. PROFESSIONAL TRAINING



The labor market in construction is characterized by certain features and industry professional specificity.

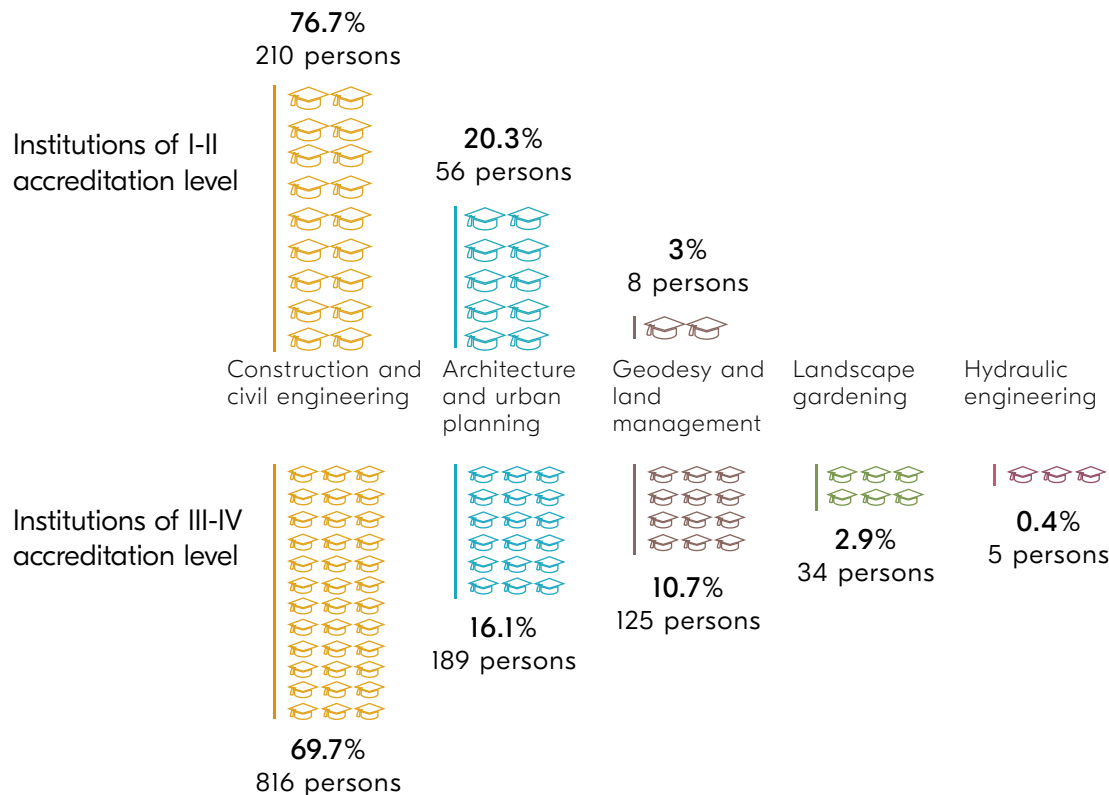
An important problem is the lack of skilled staff. Firstly, there is the opinion among young people that the constructional occupations are not prestigious because of low wages compared to high labor costs. Secondly, there is the degradation of vocational education in this area and external migration.

At present, the Government of Ukraine is implementing reforms in the field of education, which should improve the quality of training of both vocational professions specialists and engineering and management staff.

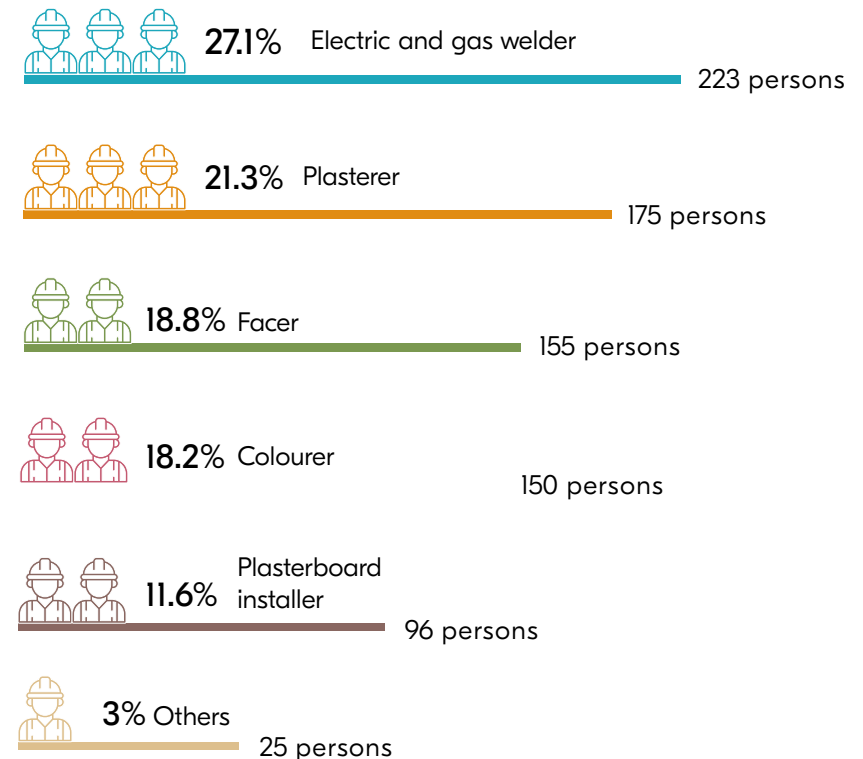
There are 8 higher education institutions in the region that prepare builders, architects and designers.

Also, there are 20 vocational education institutions. The number of students in the field of "construction" was more than 820 persons (in 2019).

Higher education institutions Graduated specialists in directions, 2019


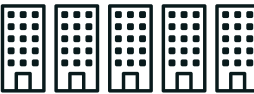




Vocational education institutions Graduated workers by directions, 2019



CONSTRUCTION SECTOR. STAFFING

Number of construction enterprises by size and employed persons

	CONSTRUCTION	CONSTRUCTION MATERIALS	ENGINEERING AND ARCHITECTURE
 Medium-sized enterprises	93 13 500 employed persons	28 2 400 employed persons	11 1 000 employed persons
 Small-sized enterprises	430 8 600 employed persons	64 1 400 employed persons	75 1 420 employed persons
 Micro-enterprises	3781 9 100 employed persons	471 990 employed persons	1408 2 700 employed persons
 Individual Entrepreneur	1843 3 260 employed persons	322 660 employed persons	942 1 280 employed persons

In Dnipropetrovsk region, 3 large enterprises engaged in the production of construction materials are registered. In total, more than 3,500 people are employed at these enterprises.

	Average salary, \$	
	Average for the region	Construction sector С другой
2022	470	370
2021	517	427
2020	466	385

Класифікація підприємств

	Number of staff	Annual income, € mln
Micro-enterprises	≤ 10	≤ 2
Small	≤ 50	≤ 10
Medium	Companies that by their characteristics cannot be classified as small or large enterprises.	
Large	≥ 250	≥ 50

CONSEQUENCES OF WAR

The war year for the region was marked not only by the construction of new facilities. During the year of the full-scale invasion of Dnipropetrovsk region, 4,045 residential buildings were destroyed by enemy rockets or artillery.

About 5,000 high-rise buildings and private houses have been damaged or destroyed in Dnipropetrovsk region since February 24, 2022.

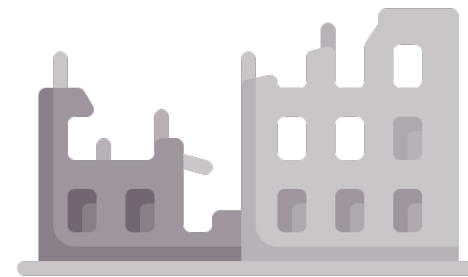
In addition to houses, more than 150 educational institutions, almost 40 hospitals, and about 100 enterprises were damaged in the region.

Information on residential buildings and objects of civil infrastructure that were damaged as a result of hostilities

According to the data already documented in our database, in the Dnipropetrovsk region (including Dnipro) during the investigated period, at least 6,493 objects of civil infrastructure were damaged as a result of shelling and fighting, including:

Residential buildings	4269	Transport infrastructure facilities	73
Buildings of educational institutions	129	Life support infrastructure facilities	970
Buildings of government institutions	21	Historical monuments	6
Buildings of Cultural and entertainment institutions	27	Cars, means of transport	562
Buildings of medical and recreational institutions	26	Humanitarian corridor	1
Buildings of religious purpose	15	Other Facilities	14
Agricultural lands, forests	40	Bridges	1
Buildings of entrepreneurial activity and commercial and industrial purpose	337	In general, objects	6493
Buildings of Public organization	2		

The communities of Kryvyi Rih, Nikopol and Synelnykove districts were the most affected.



DIRECTIONS OF INVESTMENTS IN CONSTRUCTION SECTOR

Design of modern urban and public spaces

- living space as the basis of residential construction
- use of modern urban planning projects and technologies
- improving the quality of materials and energy efficiency of buildings



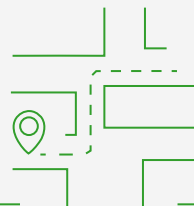
Restoration of residential and industrial buildings

- formation of a new living space through the restoration of damaged and the new construction, instead of destroyed residential building
- formation and development of Industrial Parks - centers of new Ukrainian industry
- creation of park, architectural and leisure spaces for the formation of aesthetic tastes and the foundations of cultural



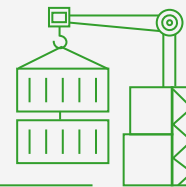
Infrastructure

- continued modernization of the automobile infrastructure
- formation of a regional solid waste management system
- improving urban infrastructure with an emphasis on inclusion
- rural areas are comfort, environmental friendliness, tourist magnets



Logistics infrastructure

- storage centers for fruit and vegetable products
- cargo storage and transshipment centers
- river transport infrastructure
- aviation transport infrastructure



Industrial development

- investments in the float-glass production
- investment in the production of elements for rapidly constructing buildings
- Investments in the production of steel with a polymer coating

