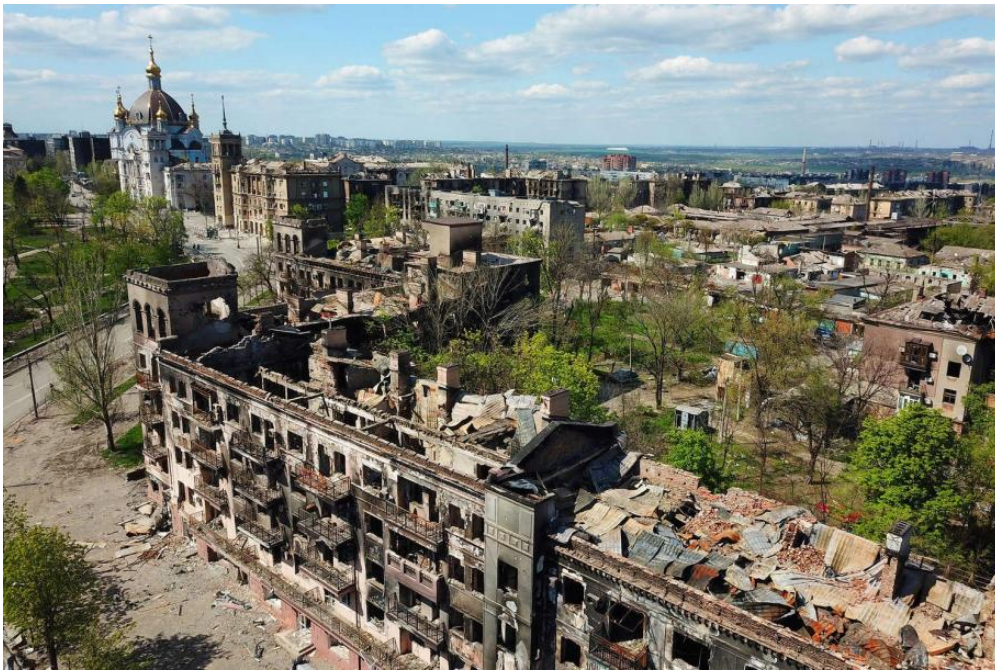


rebuilding Ukraine



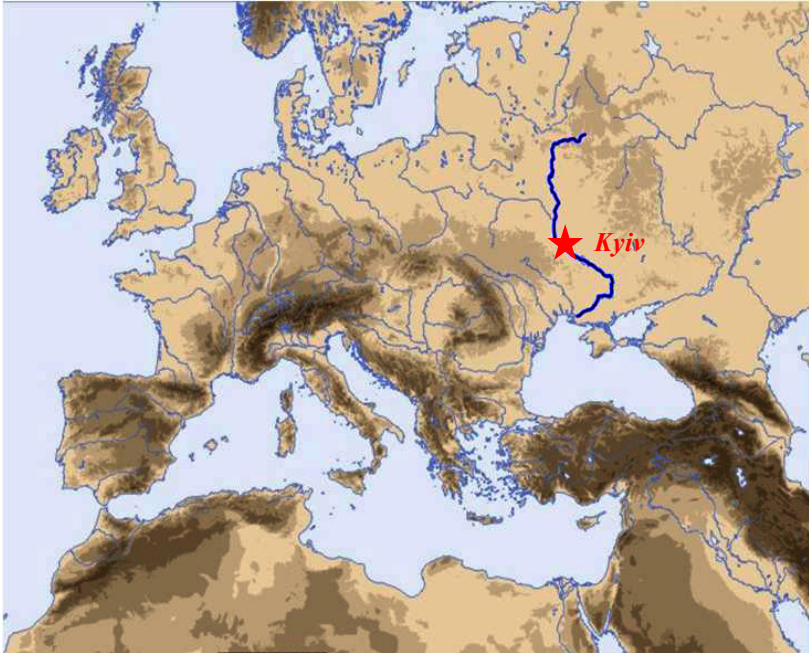
Hamburg, June 23, 2023

Symposium: «Common (Re)Constructor – a
place of common rebuilding»

Problems of rebuilding Ukraine

Olena Oliynyk, D.arch., prof.,
National Academy
of Fine Arts and Architecture,
Vice-president of NUAU,
Kyiv, Ukraine

WHERE IS UKRAINE





Square of Ukraine 603,700 sq.km

Square of russia 17100,000 sq.km

Destruction of Ukraine from February 24, 2022



On February 24, an unprecedented invasion of Russian troops took place in Ukraine, and a brutal and unexpected war began, which has been going on for eight months and a half.

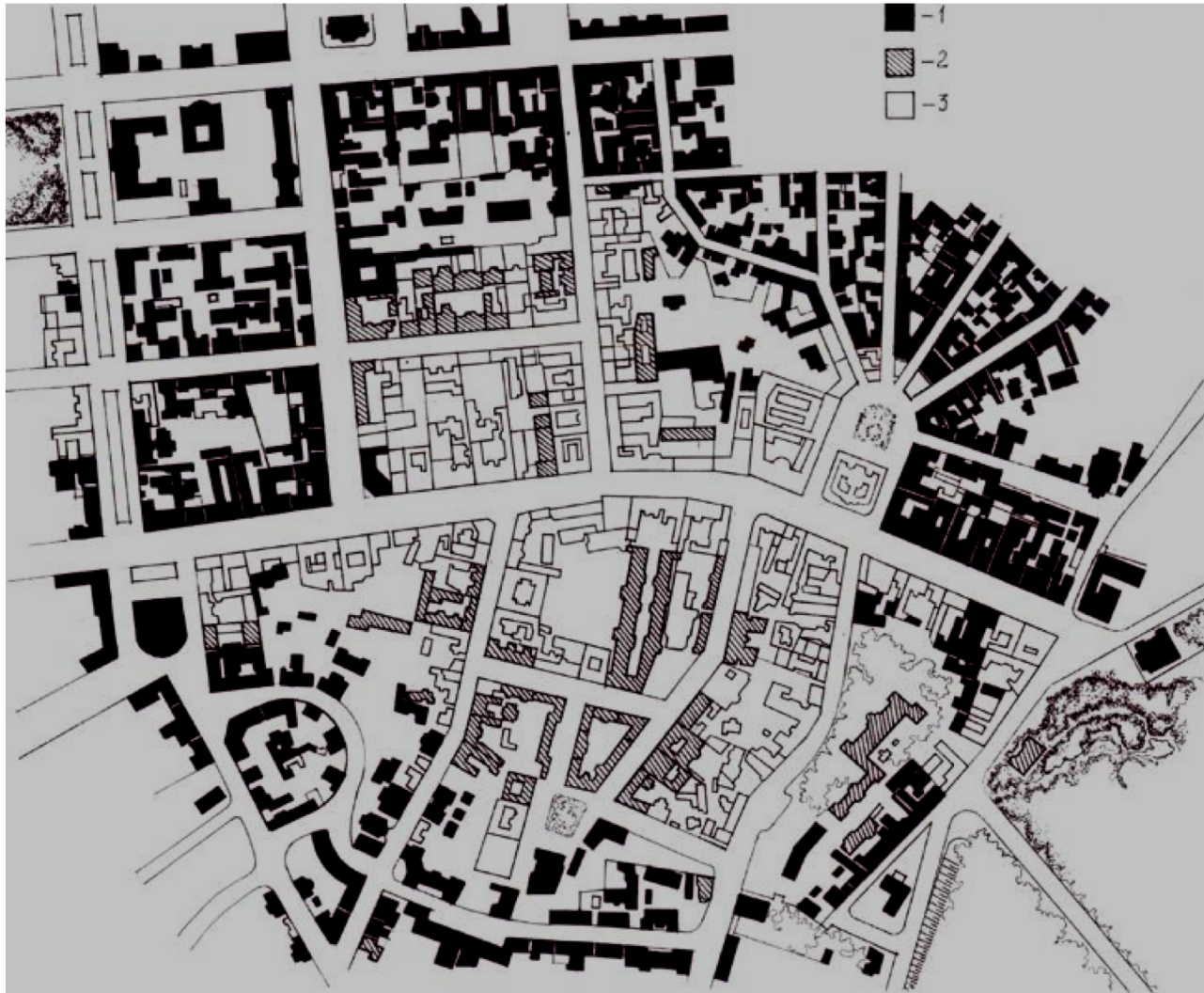
The RF invasion of Ukraine displaces more than 15 million people, bringing the total number of individuals displaced globally to approximately 100 million people for the first time in recorded history

Ukraine XX c.: Struggle for identity and independence



1932-37

Destruction on Khreshchatyk after World War II





Major urban areas under attack, March 2022



Destruction of cities. Kharkiv



2022

Borodianka



Gostomel



Bucha

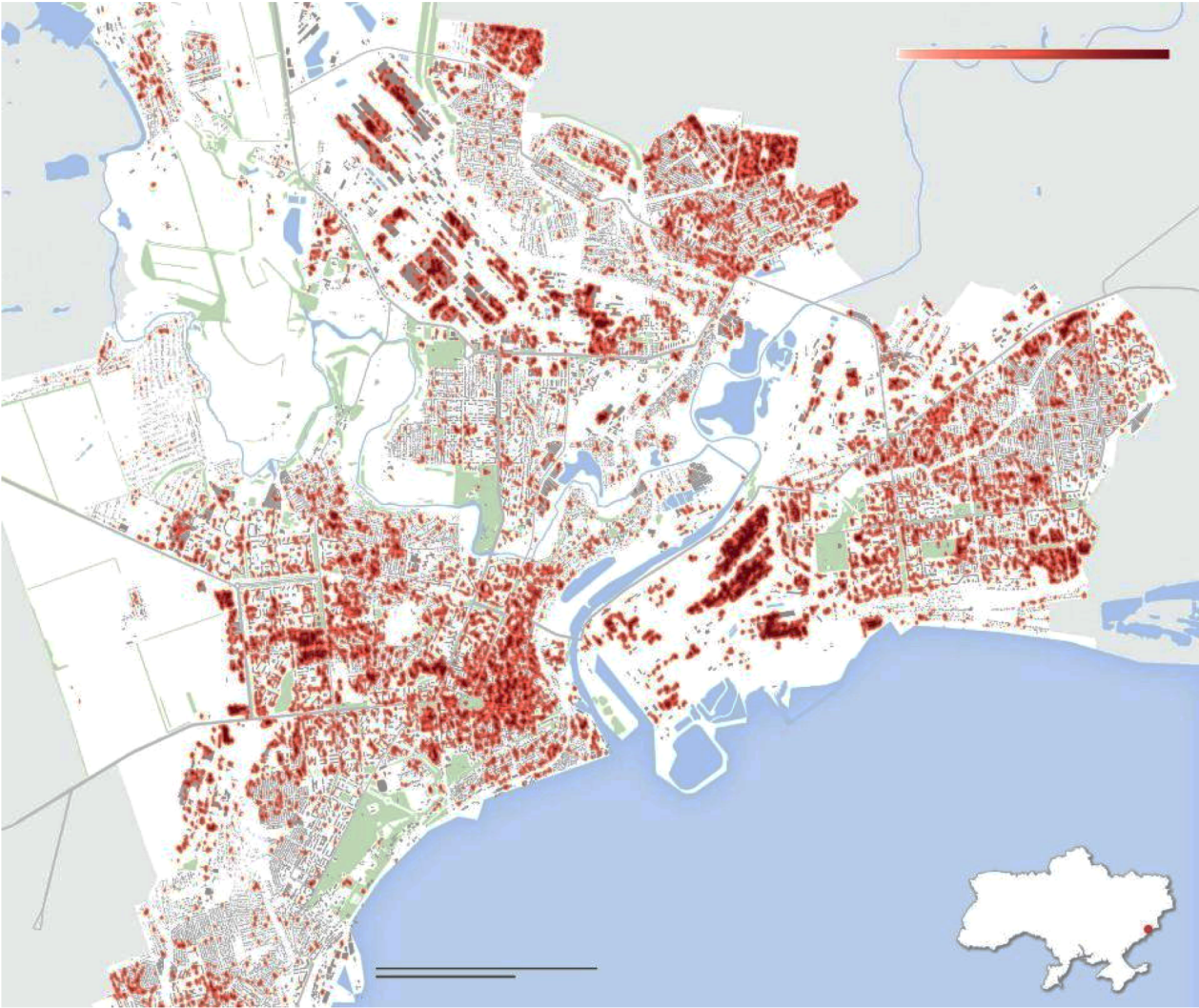


Gostomel



2022

MARIUPOL destruction map



2022

Consequences of the blowing up of the Novokakhovska dam



Damage to Ukraine's Nova Khakovka dam



Satellite images show damage to roadway



Latest images show breach of the dam

Source: Planet Labs





2022



Source: UNHCR (Data as of April 27, 2022)

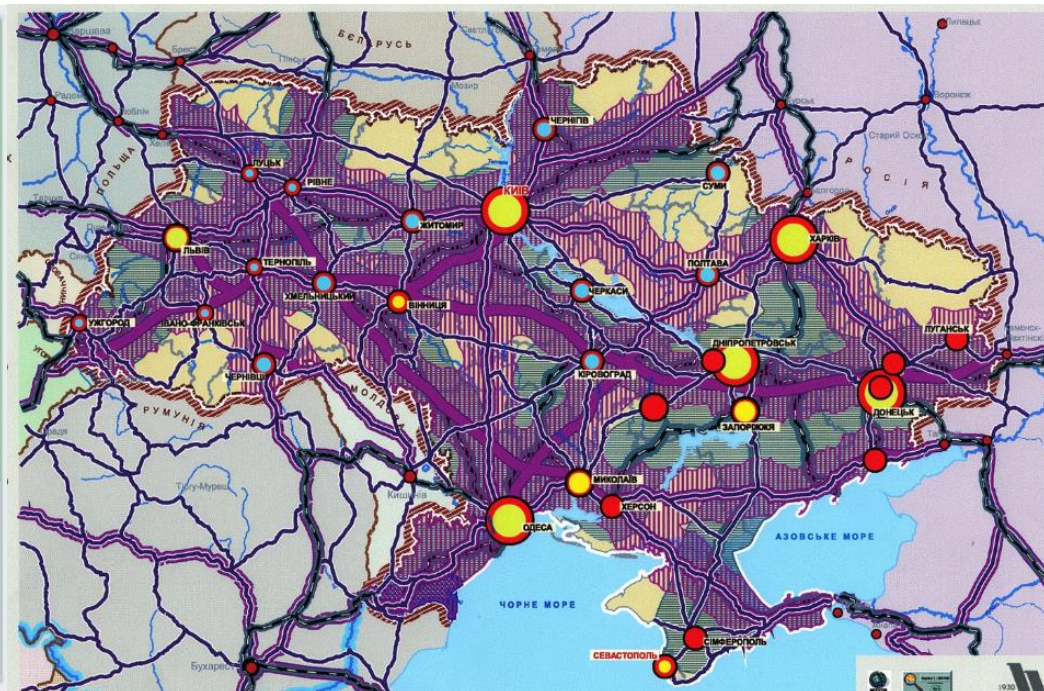
Schengen Area

More than 8 million Refugees from Ukraine recorded across Europe (as of February 2023)

2023



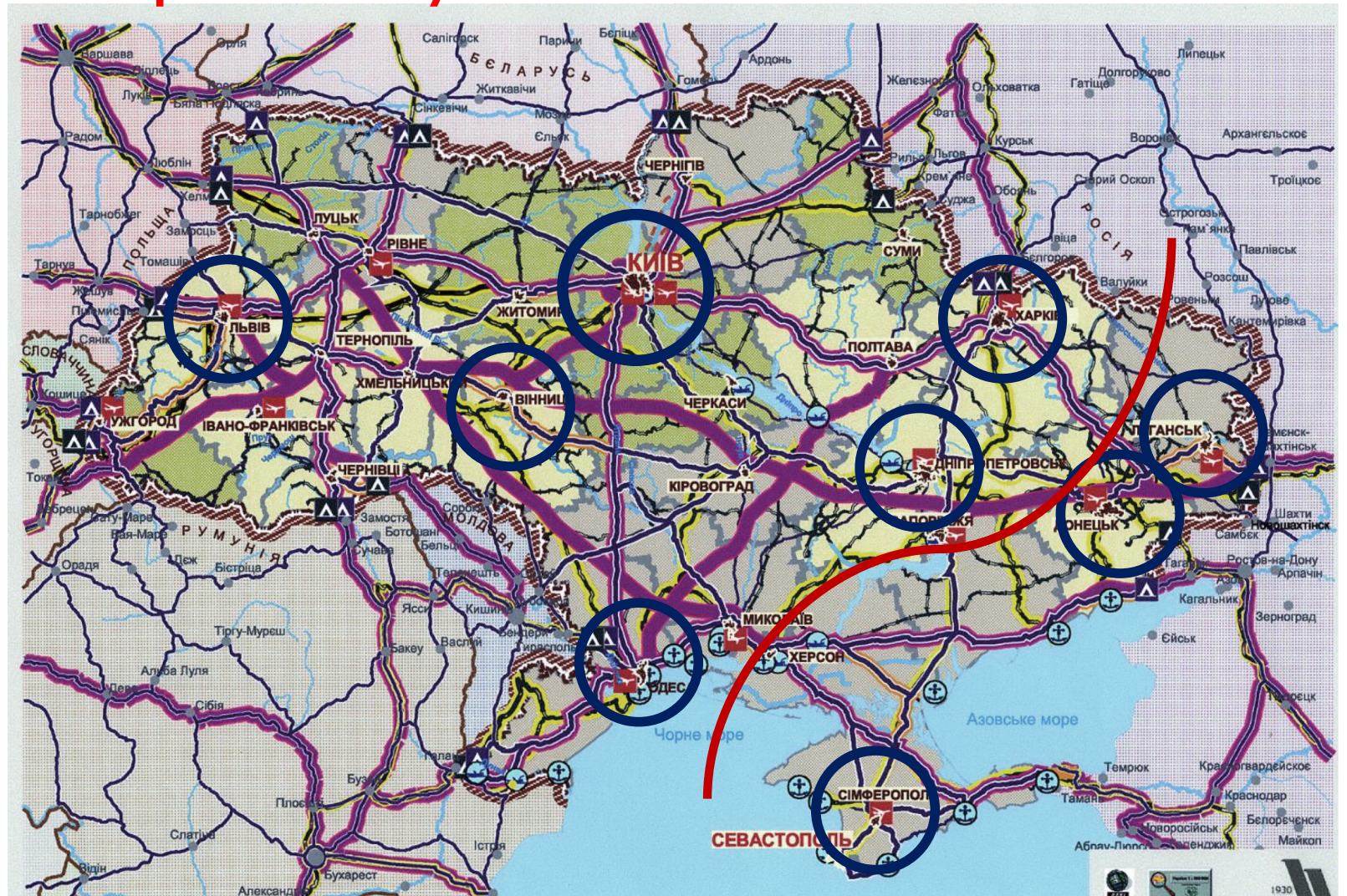
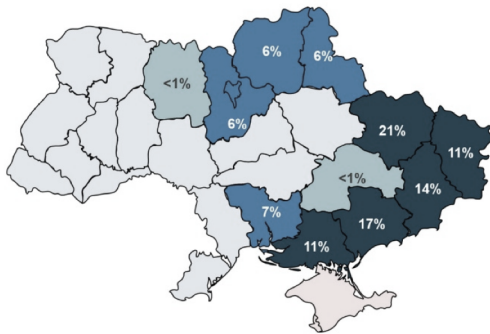
International transport corridors and their stimulating influence



Ukraine has lost half of its airports, most of its seaports, and a third of its highways and railways

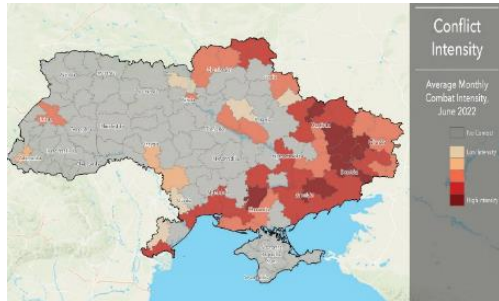
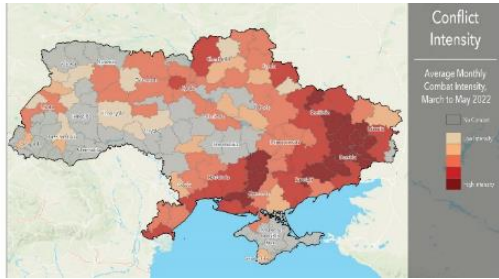
Transportation system

According to preliminary estimates, in general, as a result of hostilities, 25,000 km of roads and 315 bridges and overpasses of state, local or communal importance were destroyed

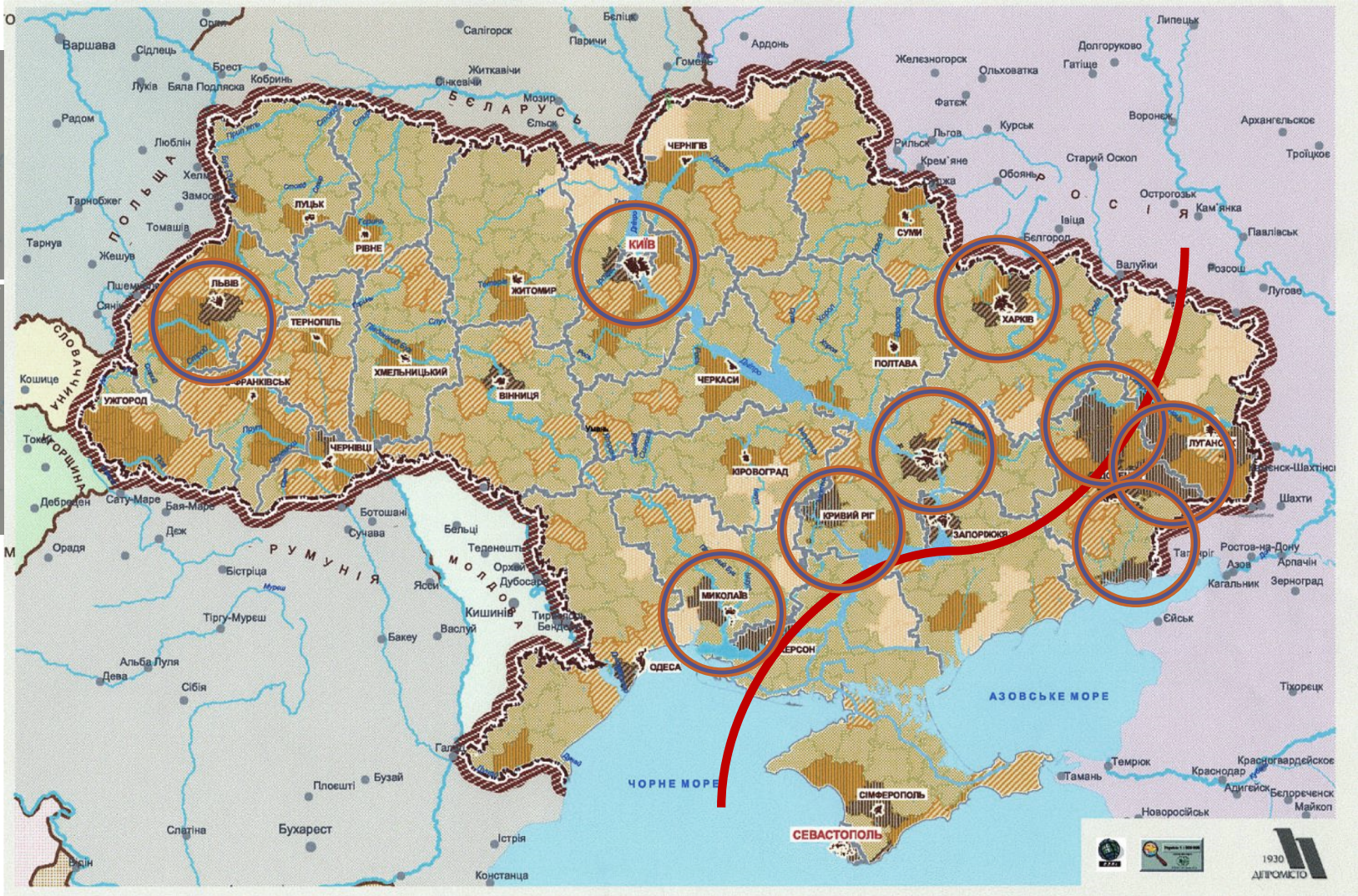


Level of urban planning and industrial development before the war

Combat intensity March-June



Extent of damage by region as of June 1, 2022



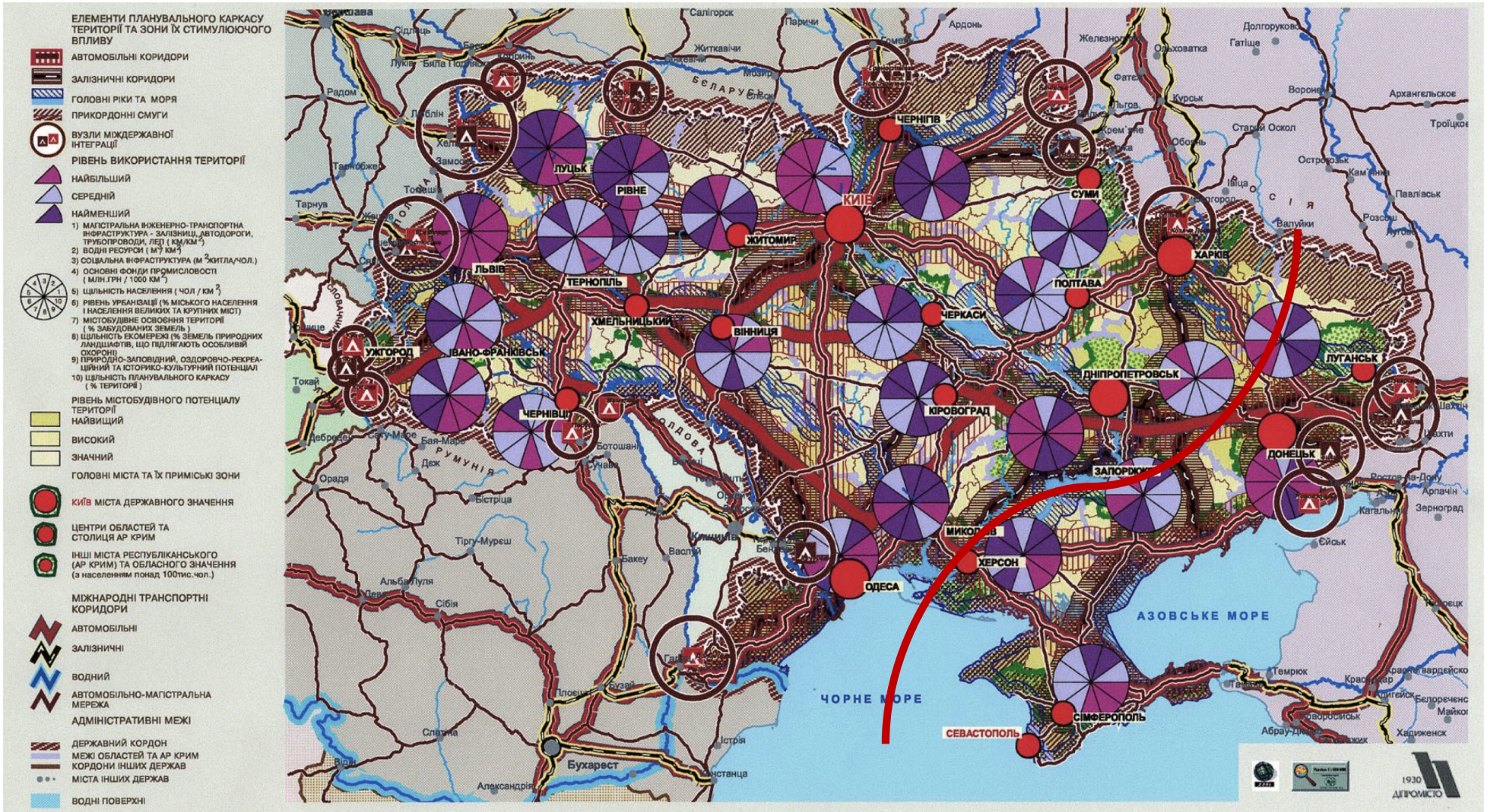
Water resources use

As of June 1, 2022, damage in the irrigation, drainage, and water resource management (WRM) sector for several oblasts is estimated at US\$154.4 million, including damage to dams, irrigation canals, embankments, buildings, and agency premises. The total reconstruction and recovery needs in the public sector are estimated at US\$7.5 billion for building back better irrigation, drainage, and flood protection assets.

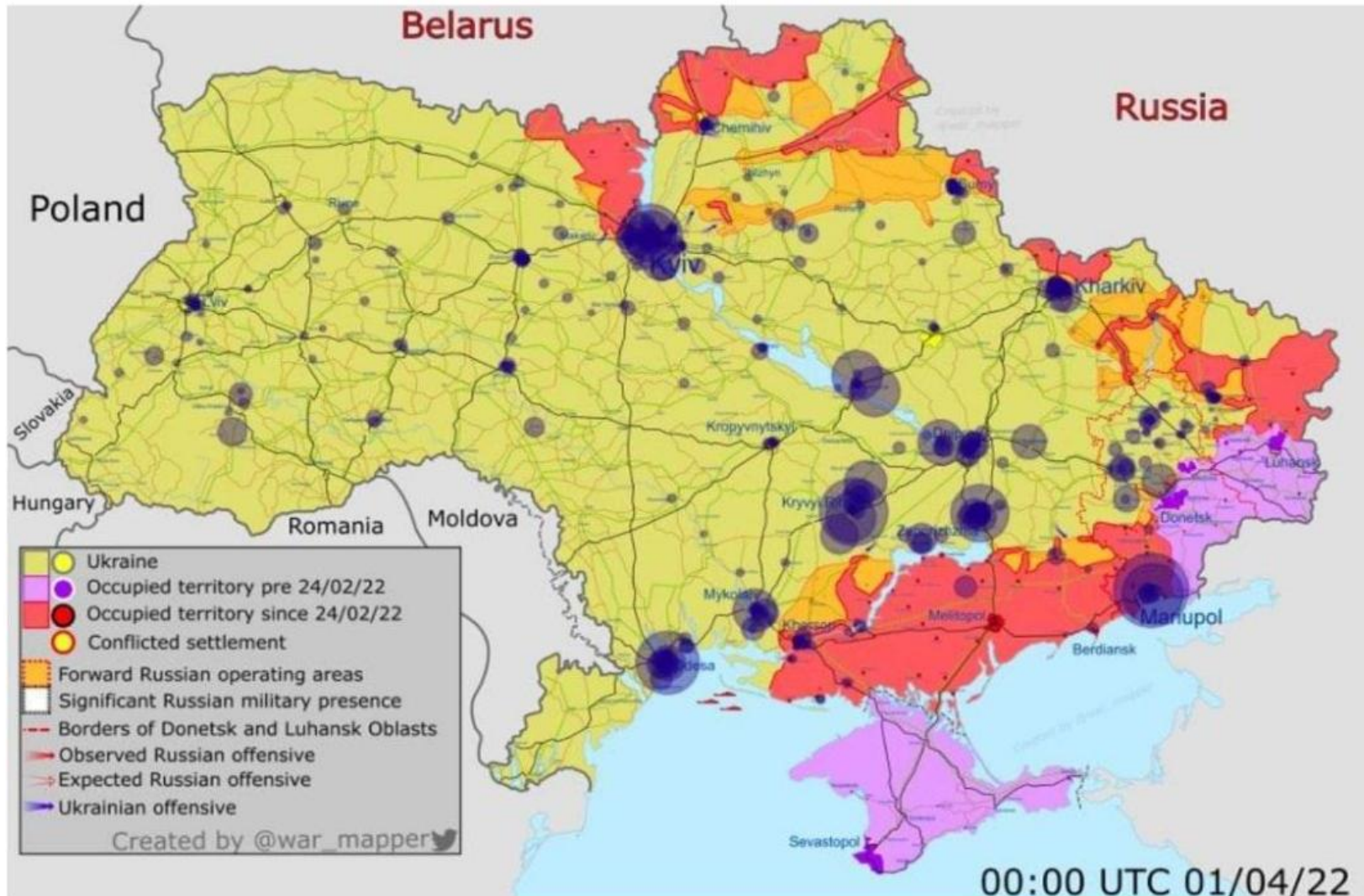
The estimated damage for the water supply and sanitation (WSS) sector stand at US\$1.3 billion. Losses have been estimated at approximately US\$6.8 billion, noting similar challenges in accessing data.



Assessment of the lost urban planning potential



Damage assessment for the largest industrial enterprises



Damaged and destroyed infrastructure objects of Ukraine

Damaged and destroyed infrastructure objects of Ukraine total

\$ 114,5 bln



housing

131,3 thousand units



industry and business

422 units



vehicles

188,1 thousand units



education

2472 units



healthcare

934 units



culture and sports

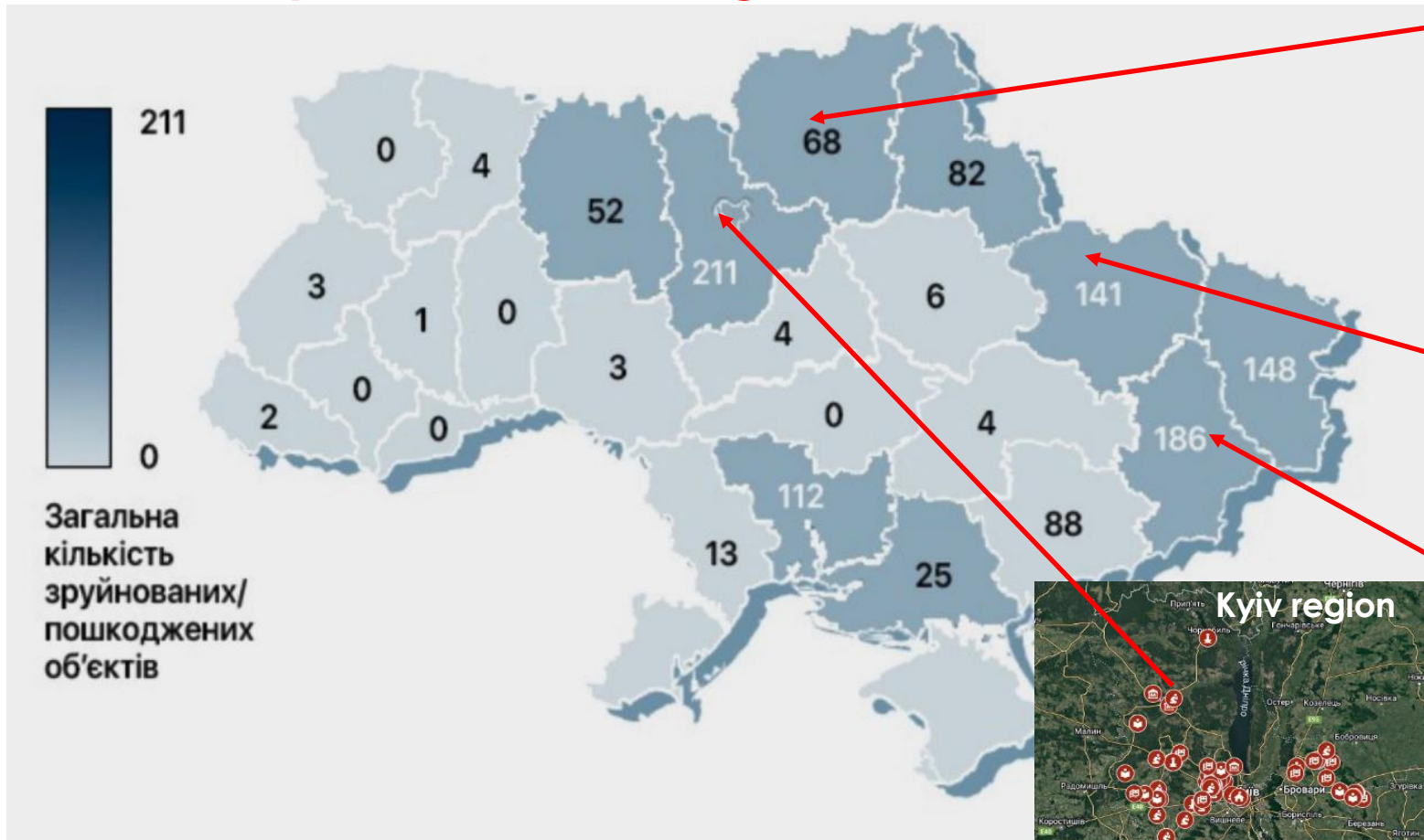
924 units

AS OF SEPTEMBER, 5, 2022

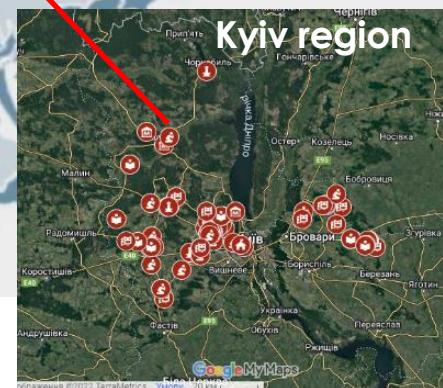
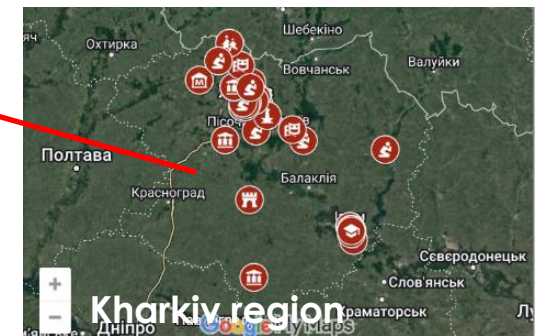
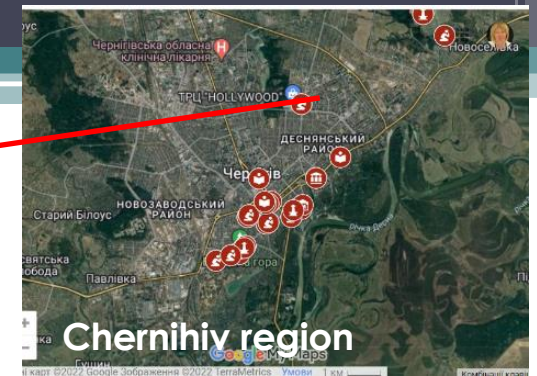
Property types	Damages, \$ bln	Losses, \$ bln	Reconstruction and recovery needs, \$ bln
Housing	47,8	3,5	75,3
Transportation infrastructure	35,1	18,7	51,1
Industry and business services	9,7	30,3	19,7
Agri sector and land resources	4,3	23,4	17,5
Social services	0,2	6,4	6,6
Vehicles	2,7	0,4	5,0
Education	4,4	2,1	5,4
Commerce	2,1	23,3	3,9
Energy	1,8	11,6	3,5
Health care	1,6	2,7	2,5
Utilities	1,3	2,3	1,7
Culture, religion, sport, and tourism	2,0	4,3	3,2
Administrative buildings	0,9	0,1	1,3
Digital infrastructure	0,6	1,1	1,0
Financial sector	0,02	0,2	0,02
Total	114,5	130,4	197,8
Additional needs for demining (according to the WB preliminary assessment)			70
Total, with demining			267,8

The economy has lost 30% to 50% of its productive capacity. By the number of destroyed and damaged institutions were most affected in Kyiv, Donetsk, Luhansk, Kharkiv, Mykolaiv, and Zaporizhia regions. 15.3 thousand apartments, 115.9 thousand private houses, 1991 shops, 44 social centers, 1118 education institutions, 511 administrative facilities have been damaged or destroyed.

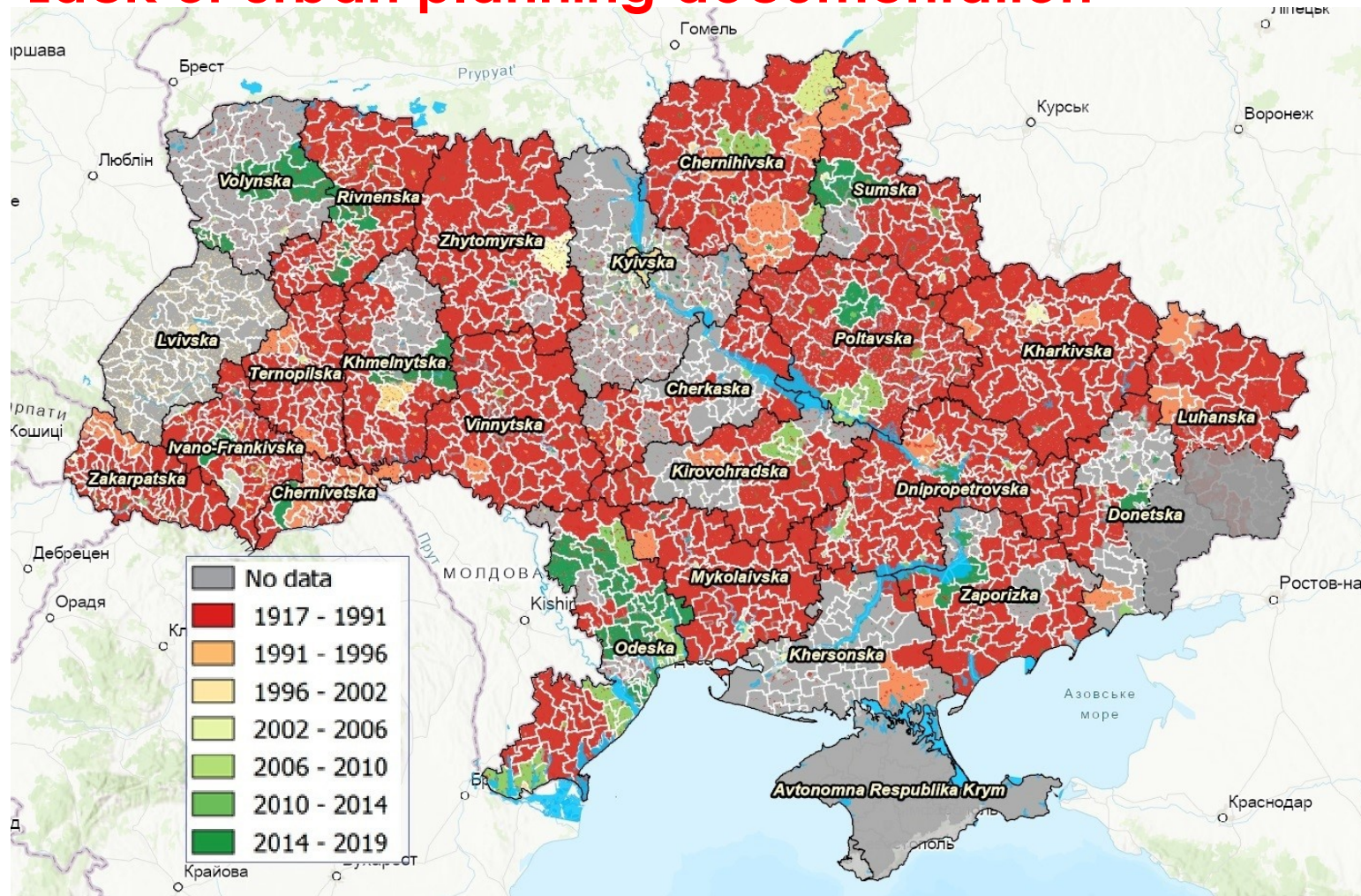
Destroyed cultural heritage



The number of destroyed cultural objects



Lack of urban planning documentation



Master plans for settlements (cities, towns, settlements and villages). There is no exact information about 11 605 (40%) settlements out of 29 726, and 13 900 (47%) settlements have master plans dated before 1992.

PROPOSAL

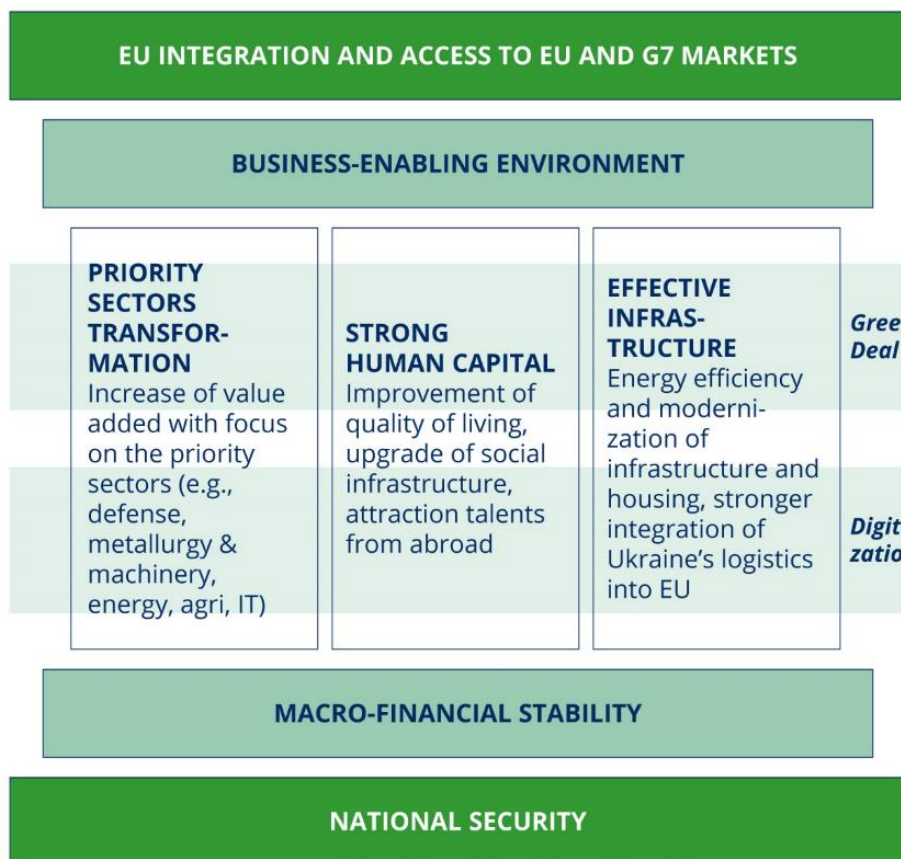
-  Rivne region
-  Chernihiv region
-  Sumy region
-  Kharkiv region
-  Luhansk region
-  Mykolaiv region
-  Kherson region
-  Odesa region
-  Odesa city
-  Kirovohrad region
-  Zaporizhzhia region
-  Donetsk region



UKRAINE RECOVERY PLAN

Ukraine Recovery Vision: «Strong European Ukraine is a “magnet” for international investment»¹

■ “Strategic imperative”
 ■ Enablers
 Transformation engines
 ➔ Strategic vectors of development



EU INTEGRATION AND ACCESS TO EU AND G7 MARKETS	<ul style="list-style-type: none"> • Fulfillment of Copenhagen criteria • Strengthening of institutional capacity • Supportive trade regimes with the key exports markets • Synchronization with the European Green Deal
BUSINESS-ENABLING ENVIRONMENT	<ul style="list-style-type: none"> • Investment attractiveness (rule of law, tackling corruption) • Streamlined regulation and growth-promoting fiscal system • Efficient and effective labor market (incl. reskilling programs) • Entrepreneurship development and SME support • Access to capital
PRIORITY SECTORS TRANSFORMATION	<ul style="list-style-type: none"> • Sectors' prioritization in the context of economic opportunity, Ukraine's competitive advantage, global trends and Green Deal • “Catalyst projects” to unlock private investment into priority sectors • Competitive cost of capital (esp. in context of military risks)
STRONG HUMAN CAPITAL	<ul style="list-style-type: none"> • Increased quality of life (education, social protection, health care, environment, culture, sport) and strong identity • Proactive and efficient immigration policy, aimed at bringing Ukrainians back to Ukraine as soon as possible
EFFECTIVE INFRASTRUCTURE	<ul style="list-style-type: none"> • Debottlenecking of logistics to reroute sea exports between Ukraine and Europe • Upgraded physical infrastructure to ensure quick logistics • Modernized and energy efficient housing and urban design • Developing digital infrastructure (inc. 5G) to transform Ukraine to a digital hub for European and Asian traffic
MACRO-FINANCIAL STABILITY	<ul style="list-style-type: none"> • Fiscal stability (incl. growth-promoting taxation and customs system, budget and debt policy) • Effective banking system and financial markets • Effective public wealth management
NATIONAL SECURITY	<ul style="list-style-type: none"> • Adequate level of defense spending, self-sufficient military industrial complex able to produce weapons for self-defense • Energy security • Ecosafety

1. «Сильна європейська Україна – магніт для іноземних інвестицій»

Ukraine's Recovery ambition is to accelerate sustainable economic growth

2032 targets

>7%

Annual GDP growth rate

>\$750 bn

Accumulated investment

TOP 25

Economic Complexity Index¹

TOP 25

World Bank Human Capital Index¹

-65%²

CO2 reduction from 1990

1. Current positions: WB HCI – 53 (2020), ECI – 47 (2019)

2. According to current NDC-2

REBUILD UKRAINE PLAN

Build back better. The reconstruction offers Ukraine an opportunity to leapfrog technologically

Urban reconstruction. Whole cities (Kharkiv, Mariupol, Chernihiv, etc.) will need to be rebuilt. We should not try to restore Soviet-style housing and other infrastructure.

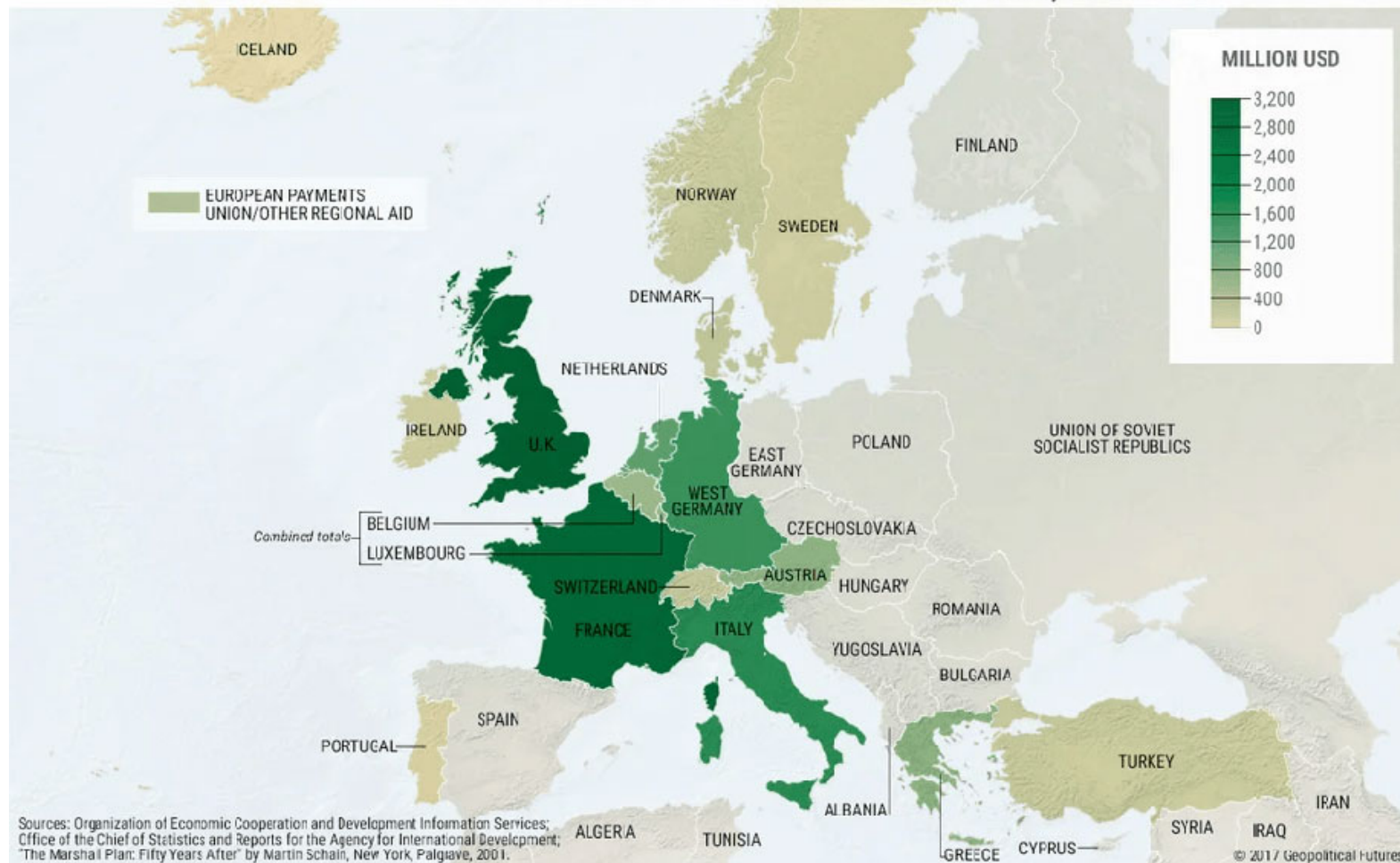
Reconstruction should focus on using modern technologies and urban planning with preserving of **Ukrainian identity** at all the levels

MARSHALL'S PLAN



MARSHALL'S PLAN

U.S. CONTRIBUTIONS TO THE MARSHALL PLAN COUNTRIES, 1948-1952



PRAGUE CHARTER: PRINCIPLES OF RECONSTRUCTION

- **Ukrainian architects should be at the forefront of post-war reconstruction.**
- **Strengthen coordination**
- **People and community-centred planning and design**
- **Sustainable economic and social development**
- **Creation of new opportunities in the fields of employment, education and communal services .**
- **Preservation of natural landscape and cultural heritage**
- **Long-term planning even in extraordinary circumstances**
- **Ensuring the supply of affordable housing**
- **Professional development and exchange of knowledge for civil servants**
- **Public-private partnerships**
- **Institutionalization of architectural competitions and their integration into construction culture**
- **The selection of general designers should be based on quality criteria, not on the basis of the lowest price.**

WHAT UKRAINE SHOULD BE



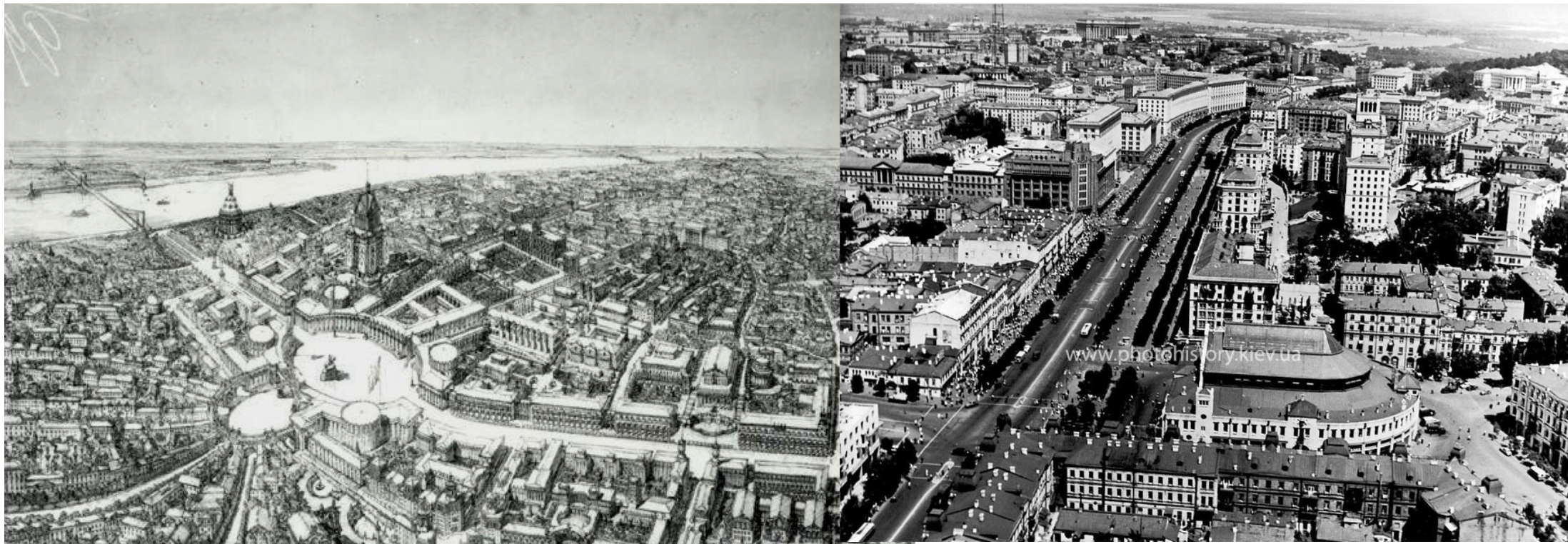


Main goal in rebuild of Ukraine should be recovery of identity in society, culture and architecture

“By identifying ourselves with the nation we do more than identify with our profession or community; this is a means of achieving personal immortality through common ancestors.”

Prof. Bohdan Cherkes

Ukrainian experience of arter-war reconstruction



Khreshchatik in 1960-th.

The competition for the reconstruction of Khreshchatyk. The project of Vlasov's team was finalized in the 2nd round of the competition. 1946

Post-war restoration of 1950-1970

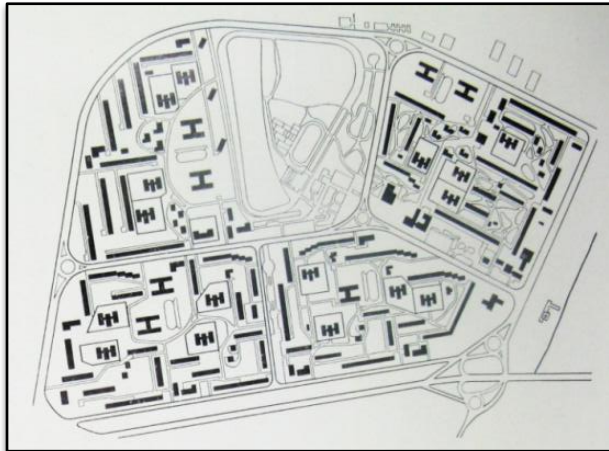
Kyiv, Nivky, V.Pika Street, 1961



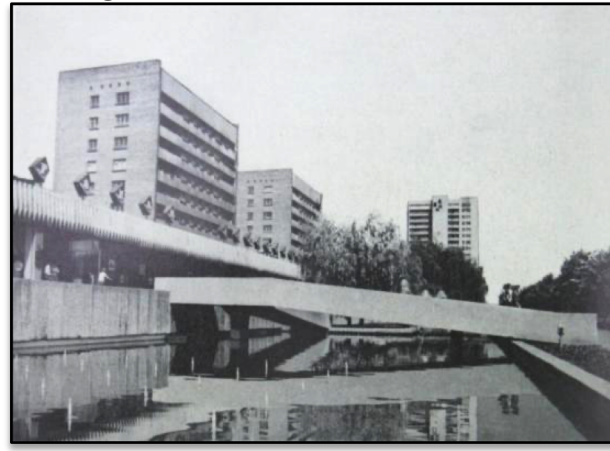
Kyiv. Residential District Rusanovka 1974. Arch.: V. Ladny, G. Kulchitsky



Kharkiv. Residential area Saltovka



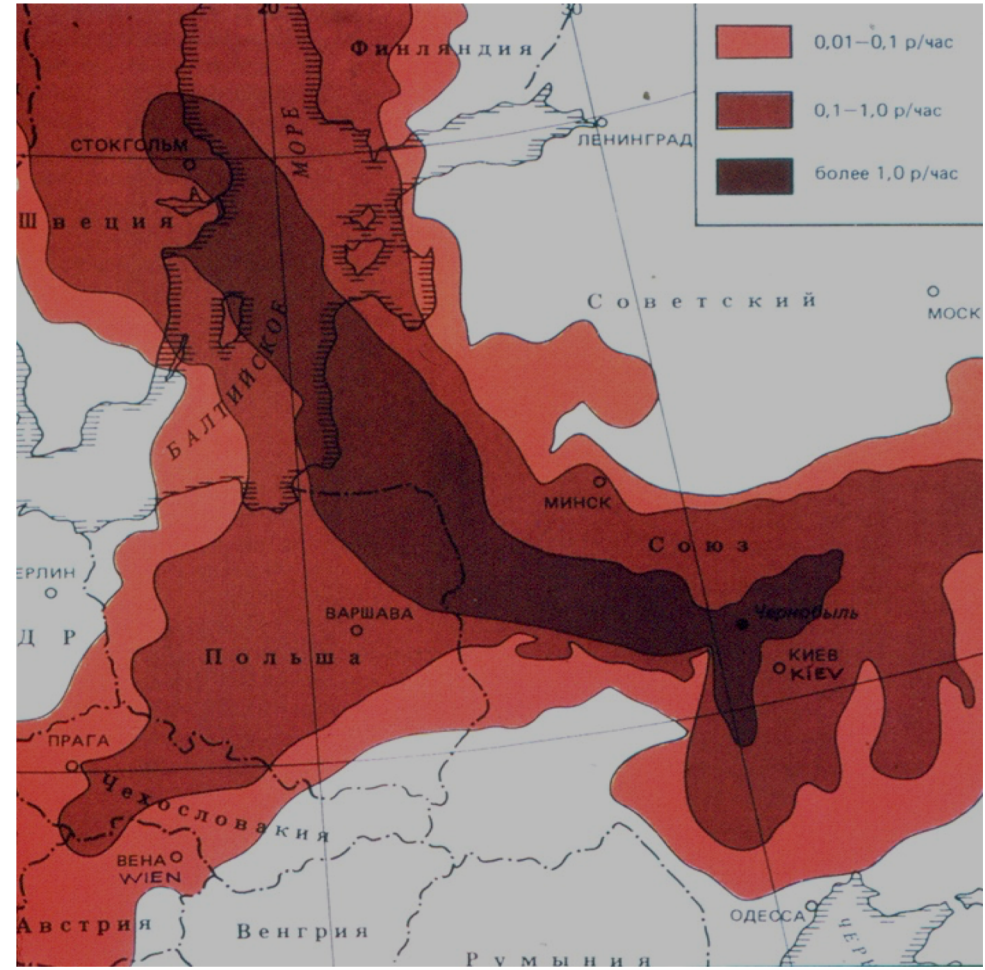
Lugansk. 1975-1978



Kyiv. 9-storey houses of the 91-464 series



The Chernobyl disaster 1986

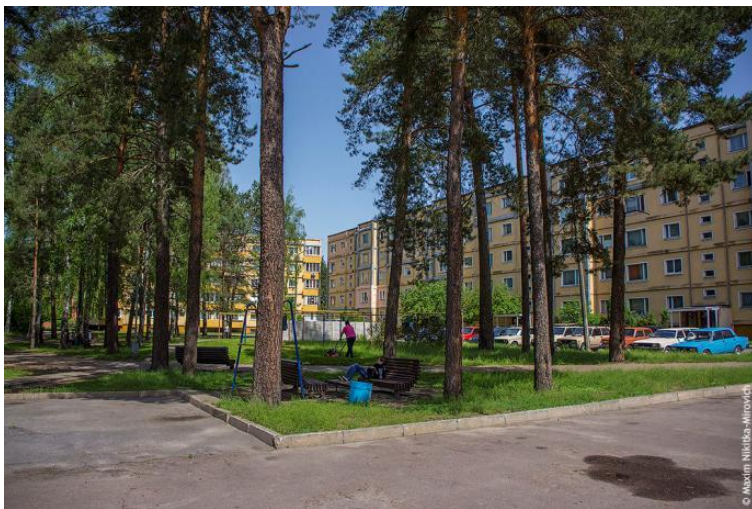


Experience in building new cities for migrants 1988

SLAVUTICH



www.Pastvu.com



Maksym Myrovych



The loss of identity during reconstruction



Warsaw: mixing styles



Dresden: creation of Soviet identity



The loss of identity during reconstruction

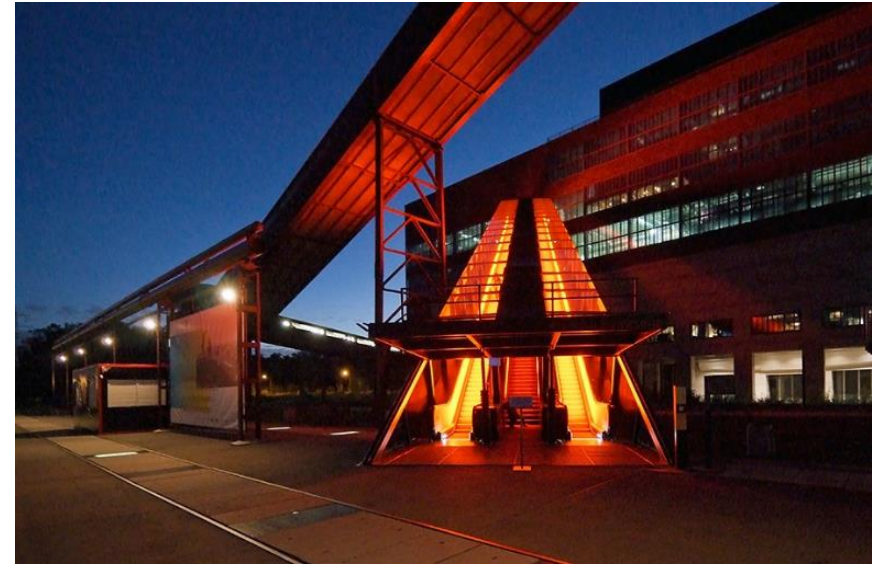


Skopje: oversaturation with sculpture

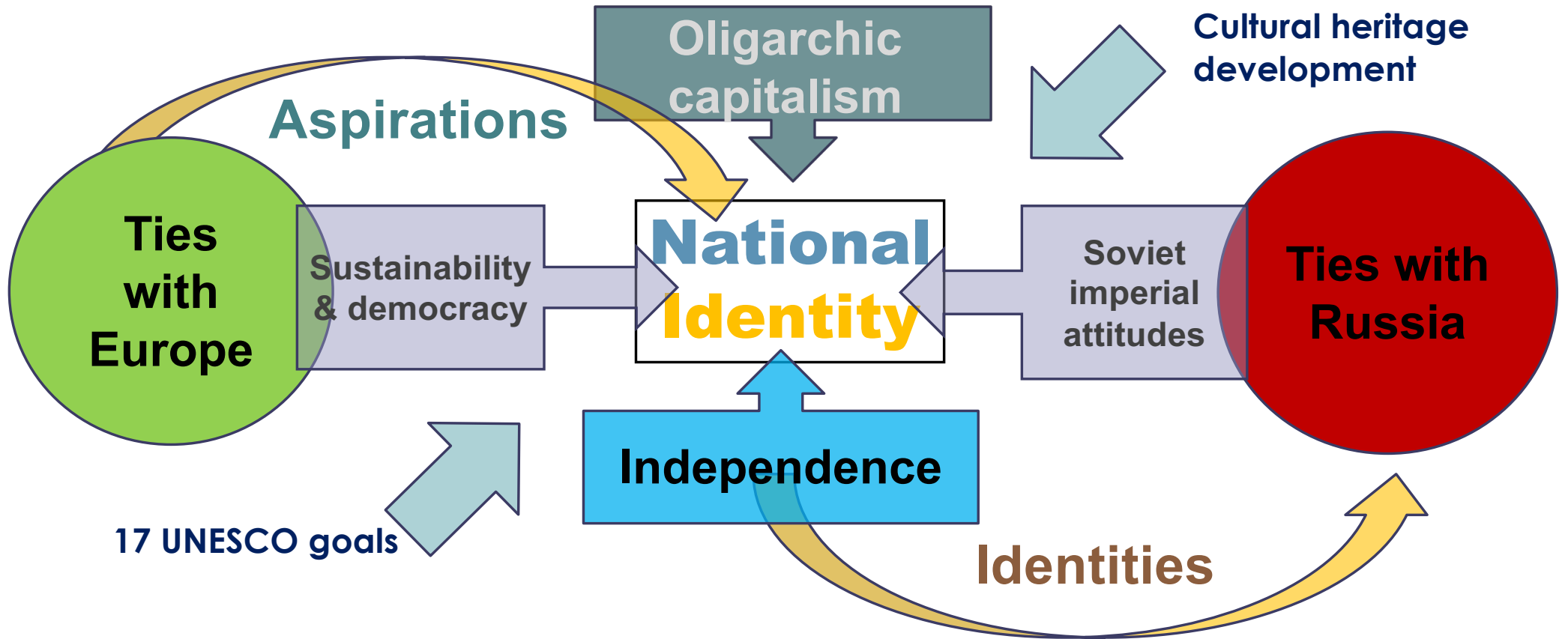


Rotterdam: temporary housing exists to this day

Create new identity – Ruhr region



Identity in architecture



Priorities in Urban Planning

Strategic plan

- Flexible planning system
- City-forming factors
- Urban planning documentation
- Development of pedestrian zones and public spaces system

Sustainable development

- 17 UNESCO goals
- New technologies
- Energy saving and efficiency
- Recycling and reuse
- Air, water and greenery

Safety and resource availability

- Low-rise buildings
- Integrated public spaces
- Borders and shelters
- Development of underground spaces

Identity in Architecture

```
graph TD; A[Identity in Architecture] --> B[Town-planning tools]; A --> C[Architectural tools]; A --> D[Artistic and social tools];
```

Town-planning tools

- Culture heritage development
- Preserving types of urban spaces
- New ideological public spaces
- Axial composition
- Museumification of battle sites
- Memorialization of recent history

Architectural tools

- Symbolize the achievements
- Explain the goals
- Attention to styles
- New progressive technologies

Artistic and social tools

- Monuments, museums, memorials
- Symbols and signs
- Toponymics
- Accessible public spaces
- Serendipity

Image of a city

```
graph TD; A[Image of a city] --> B[Morfology of urban spaces]; A --> C[Cultural heritage development]; A --> D[Genius Loci];
```

Morfology of urban spaces

Pedestrian spaces, commensurate with a person;
The shape and character of the spaces are traditionally characteristic of a city
Multifunctionality

Cultural heritage development

Strengthening the existing historical and cultural heritage, combining it with new memorable places
Creation of public spaces near cultural heritage sites

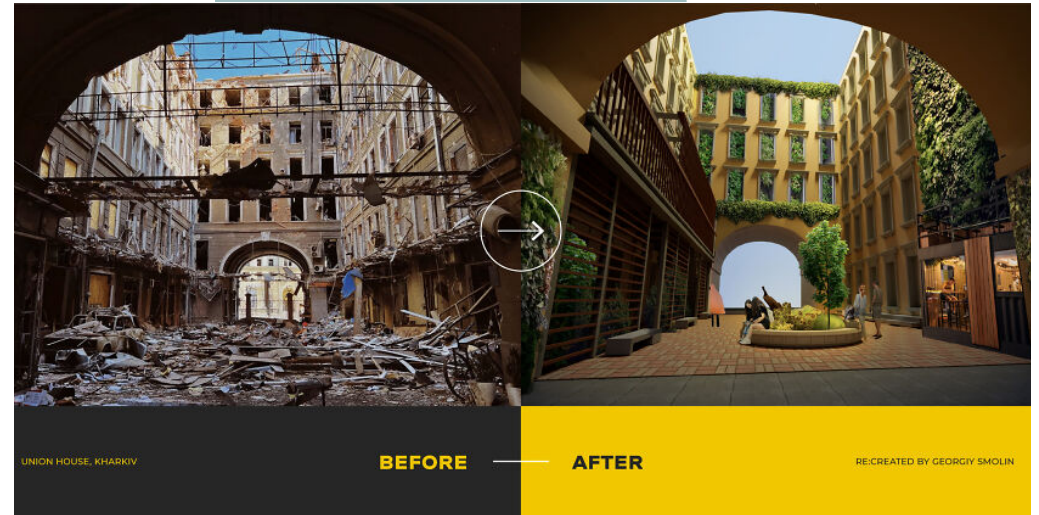
Genius Loci

Creating and strengthening the semantics of places - monuments, design, toponyms
Memorialization of heroes and battles, creation of a new history
Saturation of public spaces with new meanings

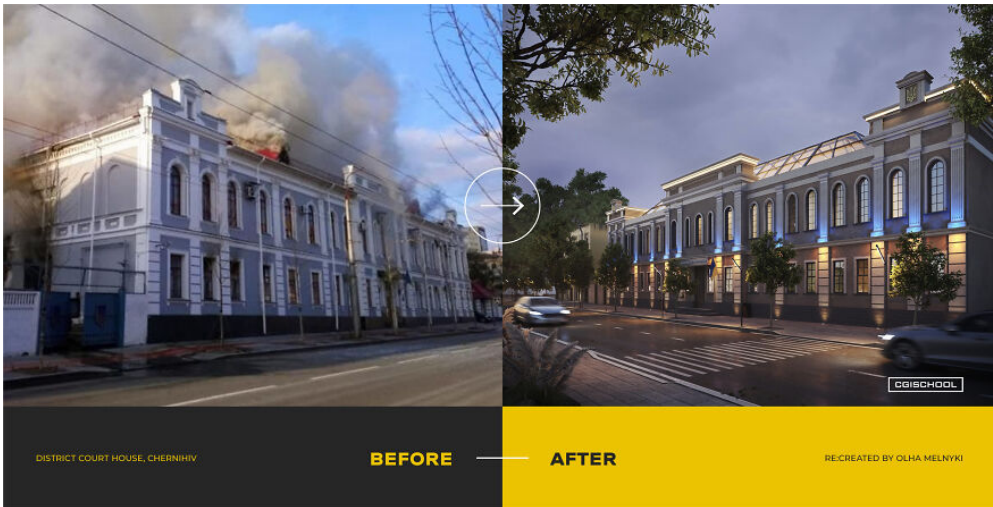
Case studies: art contest on reconstruction



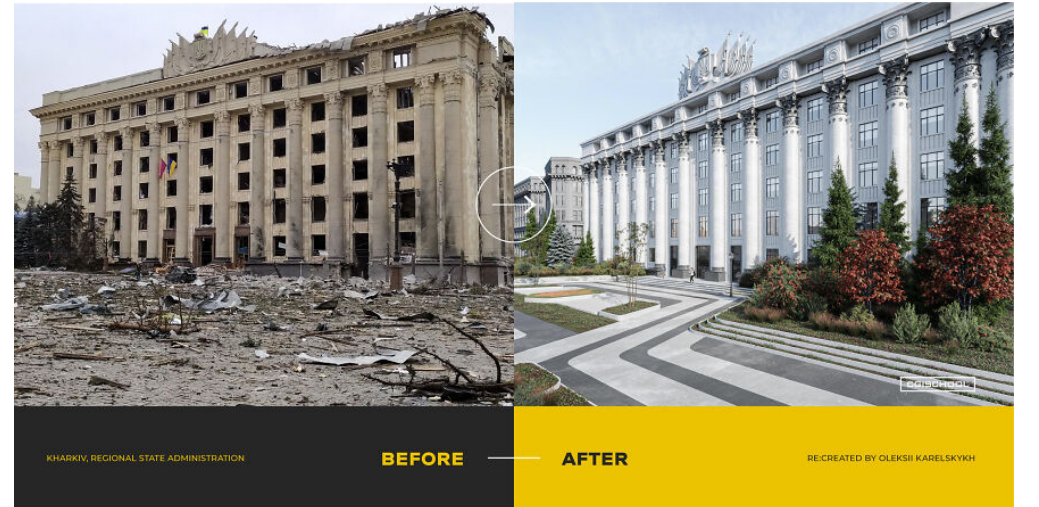
Regional Library For Youth, Chernihiv. Nataliia Semerei



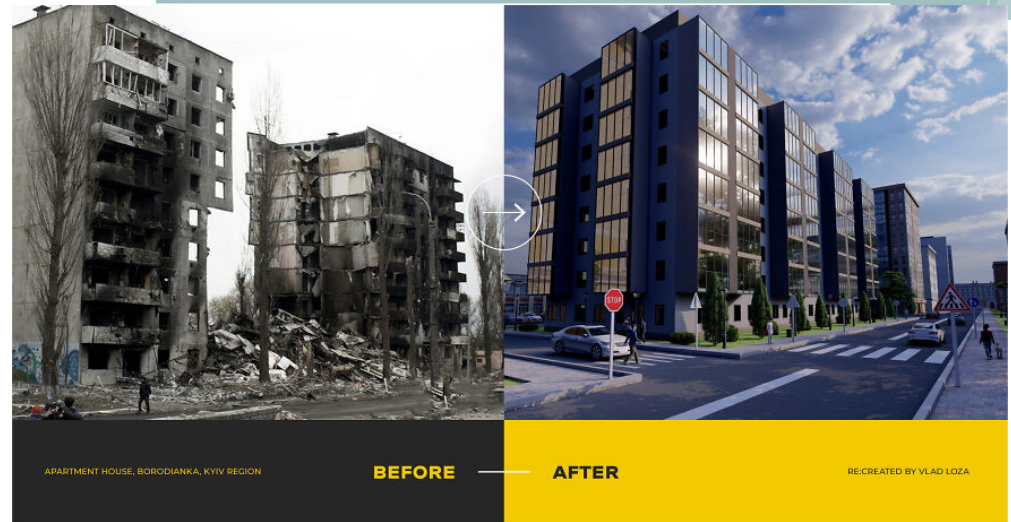
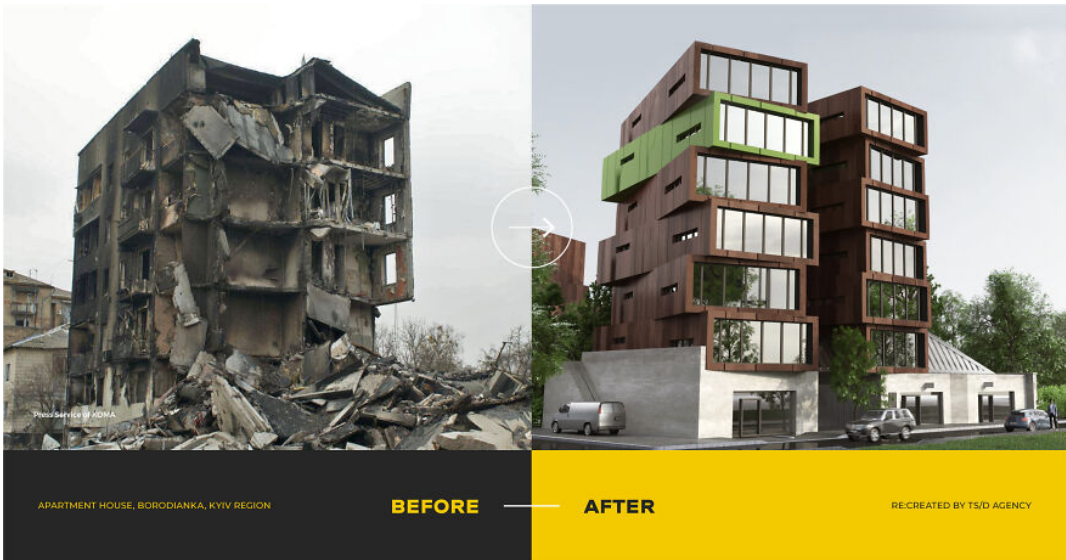
Trade Union House, Kharkiv Georgiy Smolin



District Court House, ChernihivIAM Architecture Studio Work

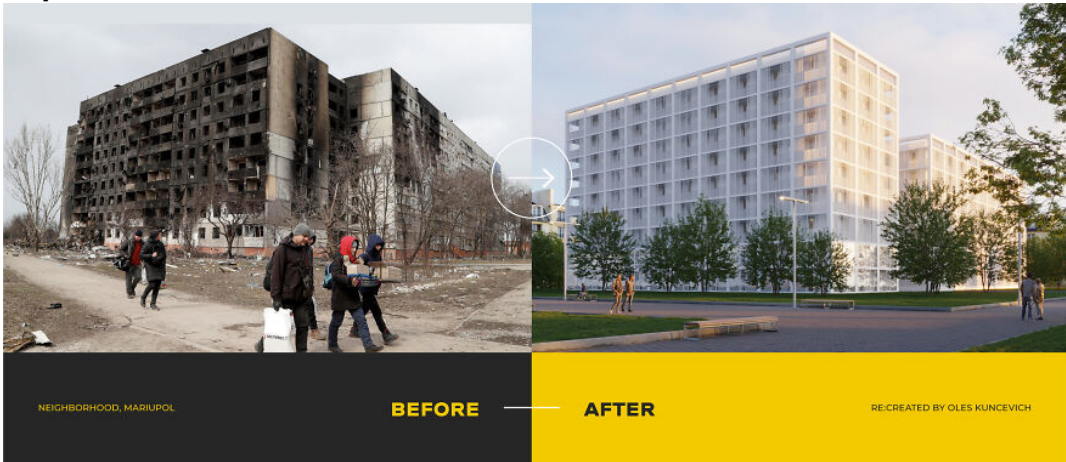


Kharkiv Regional Administration. Oleksii Karelskykh

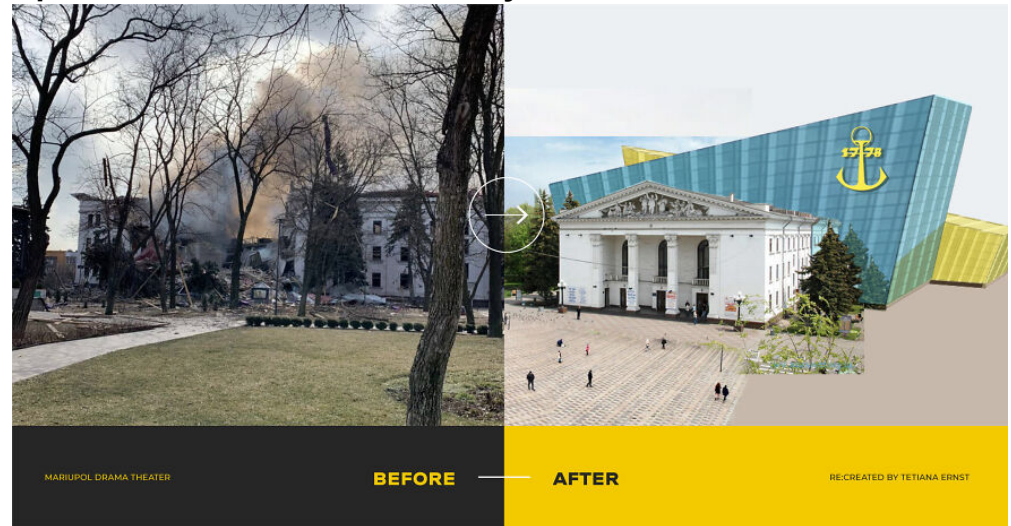


Apartment House, Borodianka Kyiv. Vlad Loza

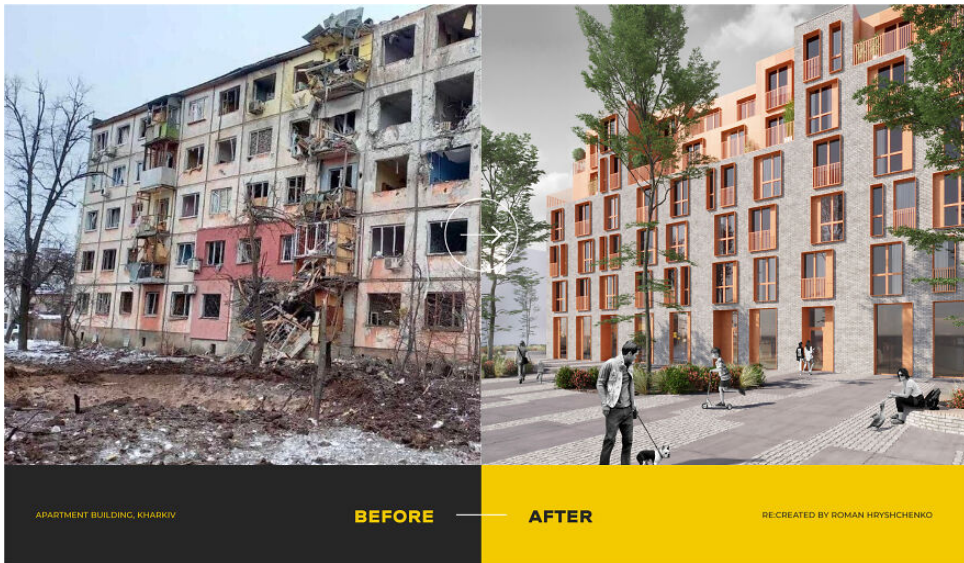
Apartment House, Borodianka. TSD



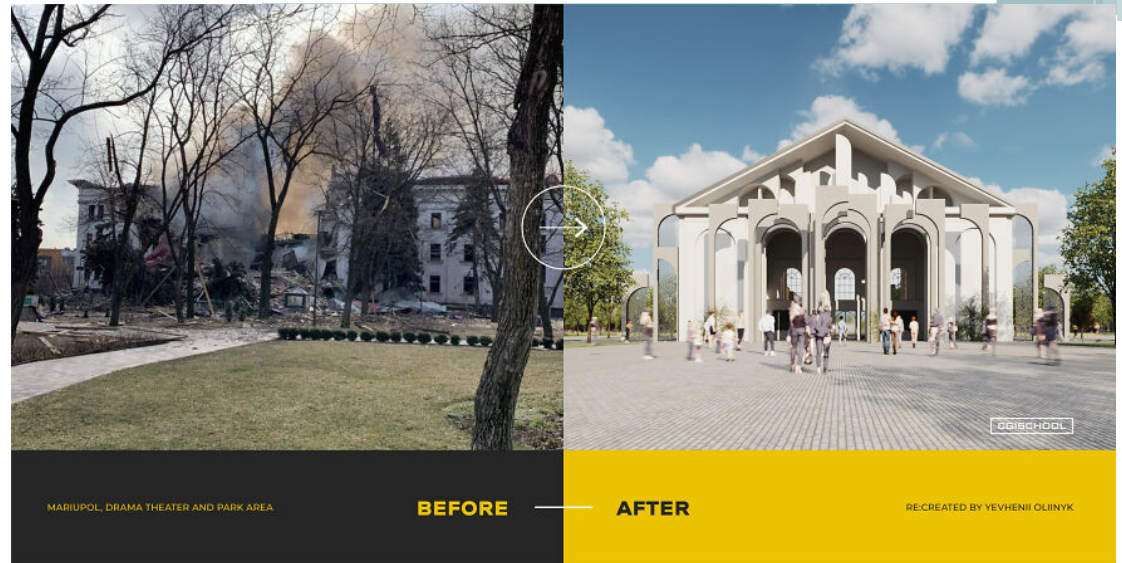
Mariupol, Oles Kuncovich



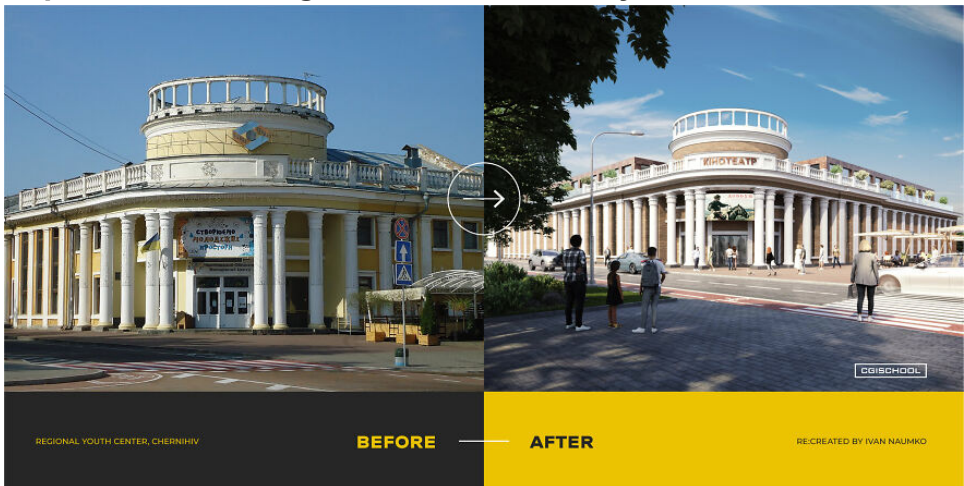
Theater, Mariupol. Tetiana Ernst



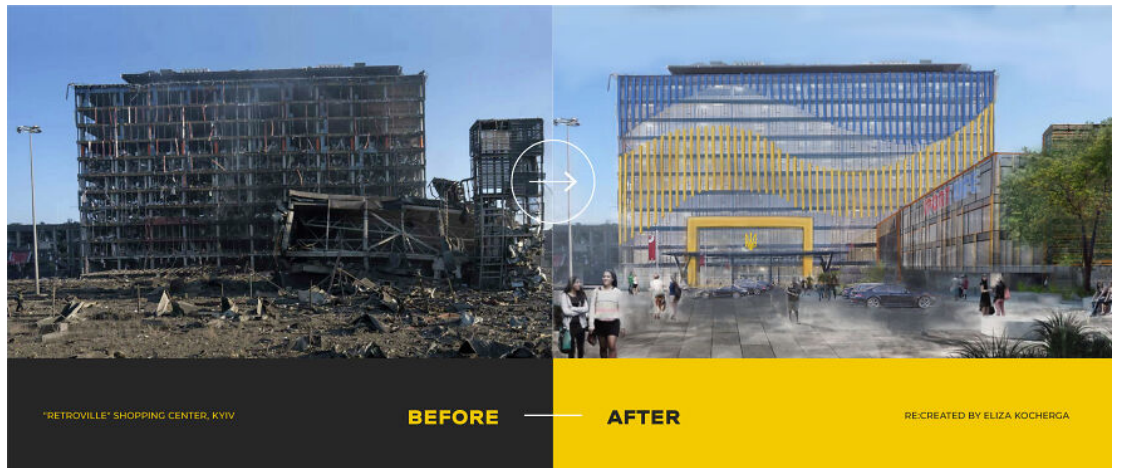
Apartment Building, Kharkiv. Roman Hryshchenko



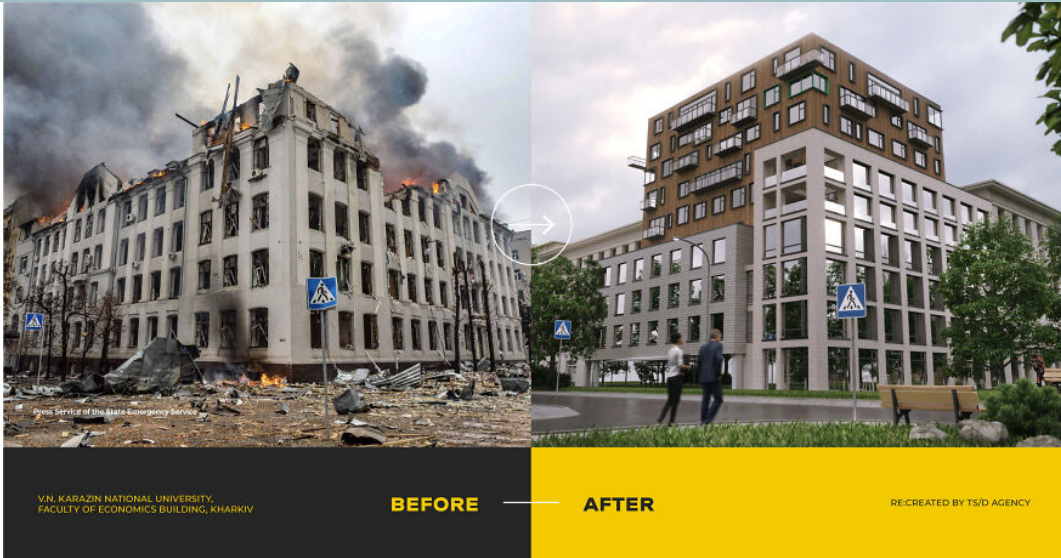
Drama Theater And Park Area, Mariupol. Yevhenii Oliinyk



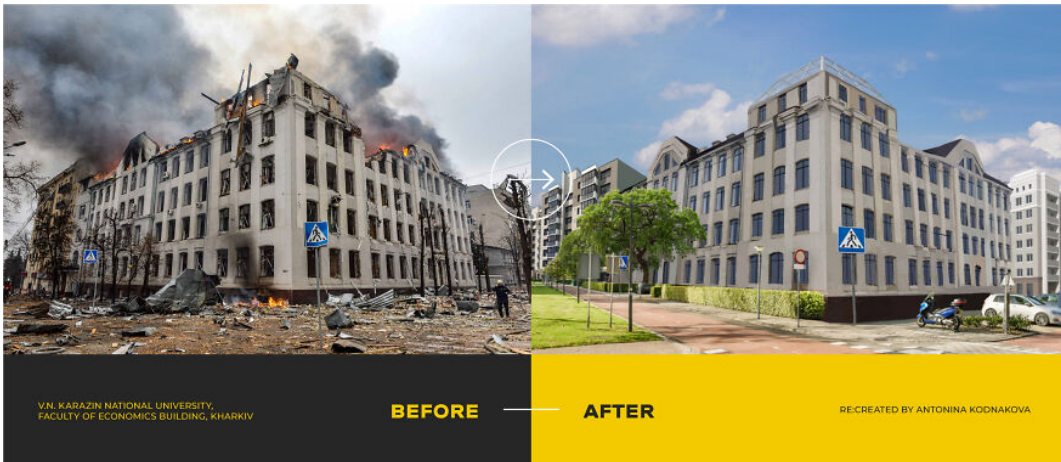
Chernihiv, Regional Youth Center. Ivan Naumko



Retroville, Shopping Center, Kyiv. Eliza Kocherga



Karazin National University, Faculty Of Economics, Kharkiv. TSD



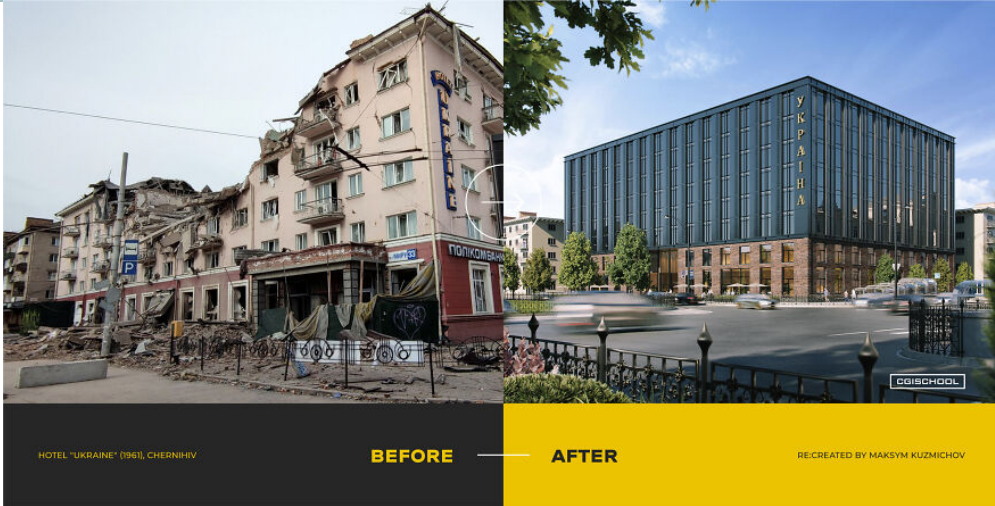
Karazin National University, Faculty Of Economics, A. Kodnakova



Bus Station, Izium Roman Paliy



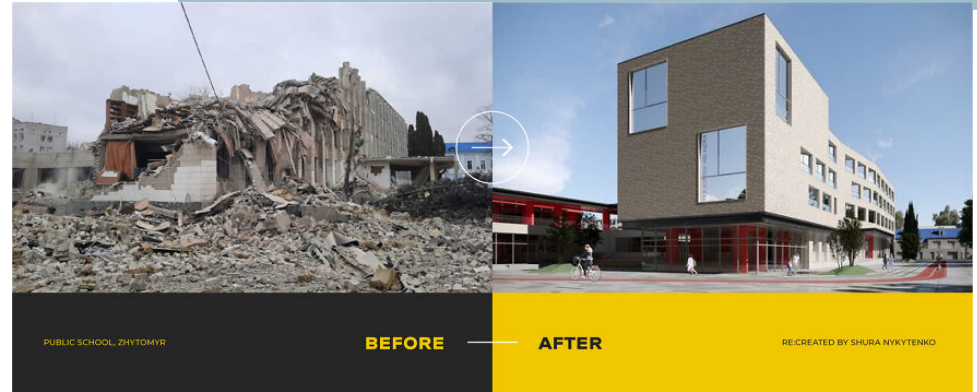
Apartment Building, Kharkiv. Yasya Bielykh



Chernihiv, Hotel Ukraine. Maksym Kuzmichov



Apartment Building, Kharkiv. Alyona Godunova



Public School, Zhytomir Shura Nykytenko



Office Center In The Old Building, Kharkiv. Vladyslav Hromov

CONCLUSIONS

- 1. Main goal in rebuild of Ukraine should be recovery of identity - in society, culture and architecture**
- 2. Our common goal is to make Europe safer and more comfortable for life after this war, to join our efforts for sustainable development and the fight against global warming.**
- 3. Solidarity with Ukraine, aid, and joint sanctions against the Russian aggressor stand for democracy and humanism today.**
- 4. Ukrainian architects are ready to generate brave ideas to implementation. We need only managing help in renovation of our cities**

The image features a background of the Ukrainian national flag, which is a horizontal bicolor of blue and yellow. The flag is depicted with a realistic, wavy texture, suggesting it is a piece of fabric. The top half is blue and the bottom half is yellow. At the top of the image, there is a dark grey horizontal bar with a thin teal line below it. The text "Slava Ukraini!" is written in a bold, yellow, sans-serif font across the blue portion of the flag.

Slava Ukraini!

Heroiam slava!