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URBAN BUSINESS CLUSTERS FOR INTERNATIONAL REAL ESTATE COOPERATION: UKRAINE-EASTERN EUROPE

УРБАНІСТИЧНІ БІЗНЕС-КЛАСТЕРИ ЯК ІНСТРУМЕНТ МІЖНАРОДНОЇ КООПЕРАЦІЇ У СФЕРІ НЕРУХОМОСТІ: УКРАЇНА – СХІДНА ЄВРОПА

This article examines the formation of urban business clusters as a tool of international cooperation in real estate. It substantiates the feasibility of cross-border cluster alliances between Ukrainian developers and Eastern European real estate companies amid post-war reconstruction and European integration. The cluster includes builders, developers, investors, financial institutions, PropTech firms, universities, and public authorities. The study analyses mechanisms of joint value co-creation and prospects for integrating Ukrainian cities into global markets through partnerships with Poland, Romania, Slovakia, the Czech Republic, and the Baltic states. It proposes a four-model cooperation framework, compares countries' potential, and outlines clustering effects at micro-, meso-, and macro-levels and key risks.

Keywords: *urban business cluster, cross-border cooperation, real estate market, development industry, PropTech, BIM tools, urban infrastructure, digitalization, sustainable development, global geoeconomic environment, investment attractiveness, post-war reconstruction.*

У статті досліджено теоретичні засади та прикладні аспекти формування урбаністичних бізнес-кластерів як інструменту міжнародної кооперації у сфері нерухомості. Метою статті є обґрунтування моделі урбаністичного бізнес-кластера як інструменту міжнародної кооперації у сфері нерухомості та визначення механізмів формування транскордонних кластерних об'єднань за участю українських і східноєвропейських девелоперів. Актуальність теми зумовлена масштабами післявоєнної відбудови житлового фонду та інфраструктури України, що потребує залучення іноземного капіталу, технологій і управлінського досвіду, а також поглибленням інтеграції України до європейського економічного простору. Методика дослідження ґрунтується на системному аналізі структури кластера та внутрішніх взаємозв'язків, порівняльному аналізі кооперативного потенціалу країн Східної Європи, а також структурно-функціональному моделюванні типології форматів транскордонної кооперації. У результаті розкрито структуру кластера, до складу якого входять будівельні компанії, девелопери, інвестори, фінансові установи, PropTech-компанії, університети та органи влади. Проаналізовано механізми спільного створення вартості на ринку нерухомості, розвитку міської інфраструктури та підвищення інвестиційної привабливості територій. Визначено перспективи інтеграції українських міст у глобальні ринки нерухомості, капіталу й послуг через взаємодію з партнерами з Польщі, Румунії, Словаччини, Чехії та країн Балтії. Запропоновано чотирикомпонентну модель кооперації – інвестиційно-девелоперську, технологічну, фінансово-інституційну та освітньо-наукову, – а також оцінено очікувані ефекти кластеризації на мікро-, мезо- та макрорівнях і основні ризики, що потребують мінімізації. Практична цінність дослідження полягає у формуванні організаційного підґрунтя для запуску пілотних транскордонних кластерів,

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яке можуть використовувати девелопери, інвестори та органи влади під час розроблення програм відбудови українських міст.

Ключові слова: *урбаністичний бізнес-кластер, транскордонна кооперація, ринок нерухомості, девелопмент, PropTech, інструменти BIM, міська інфраструктура, цифровізація, сталий розвиток, глобальне геоекономічне середовище, інвестиційна привабливість, післявоєнна відбудова.*

Formulation of the problem. The contemporary real estate market is increasingly acquiring the features of a networked rather than an isolated national system. The globalisation of capital, the digitalisation of construction processes, and the growing role of technological solutions in development activity generate a need for new organisational forms of interaction among industry actors [1; 2; 8]. One such form is the urban business cluster – a territorially localised yet functionally open alliance of enterprises, financial institutions, research centres, and public authorities that jointly work to develop the urban environment and enhance the investment attractiveness of territories.

For Ukraine, the question of forming such clusters has acquired particular relevance in the context of post-war reconstruction. The scale of destruction to housing stock and infrastructure, on the one hand, creates unprecedented demand for construction and development services; on the other hand, it requires the mobilisation of substantial volumes of foreign capital, technology, and managerial expertise [3; 16]. According to recent damage and needs assessments, direct damage to Ukraine's housing sector alone has been estimated in the tens of billions of US dollars, while the total cost of reconstruction and recovery across all sectors of the economy is estimated at several hundred billion US dollars over the coming decade [3; 14]. No single source of financing – public, private, or donor – can realistically cover needs of this magnitude in isolation, which is precisely why coordinated, multi-actor organisational forms such as cross-border clusters merit systematic academic attention. Cross-border cooperation with developers from Eastern European countries that have experience integrating into European real estate markets can serve as an effective mechanism for accelerating these processes.

Ukraine's acquisition of European Union candidate status and the commencement of formal accession negotiations create an additional institutional context for deepening such cooperation. Harmonisation of Ukrainian legislation in urban planning, land relations, and investment protection with the acquis communautaire substantially lowers entry barriers for foreign developers, while simultaneously opening access for Ukrainian companies to European financing programmes and technical assistance [4; 17; 18]. Within this context, the urban business cluster emerges not merely as an instrument for capital attraction but also as a mechanism of institutional learning that accelerates the adaptation of the Ukrainian real estate market to European standards of business conduct.

Analysis of recent research and publications. Cluster theory as a tool for enhancing the competitiveness of territories was formed primarily on the basis of M. E. Porter's concept, which regarded a cluster as a geographically concentrated group of interconnected companies, specialized suppliers, service providers, and associated institutions operating in a particular field [1]. Subsequently, the concept was adapted to the specifics of the real estate market and urban planning, where clusters form around specific development areas, major developer projects, or technological platforms – a trend actively documented in industry overviews such as those by the Ukrainian Association of Developers [5].

Issues of cross-border clusters and strategic spatial connectivity in the real estate sector have been studied less thoroughly than industrial or IT clusters, despite growing interest in this topic among regional economists in Central and Eastern Europe. Macro-regional frameworks such as the Three Seas Initiative [4] and the Ukraine Recovery Plan [6] demonstrate an increasing demand for multilateral infrastructural and spatial integration. However, existing academic literature and policy briefs – including reports by initiatives like Cities4Cities on municipal cross-border cooperation for EU accession [2] – remain largely

concentrated on adjacent border Euroregions and localized cross-border agglomerations. Meanwhile, the broader mechanisms of cross-border cluster interaction under European integration processes, as analyzed by N. Danko and O. Izmailov [17], as well as the formation of developer clusters not bound strictly by a contiguous shared border, remain insufficiently developed in the scholarly discourse.

A separate strand of scholarship is devoted to the role of the PropTech sector, environmental sustainability, and digital governance in transforming the development industry. Digital platforms for real estate management, building information modelling (BIM) tools, climate-risk mitigation standards outlined in recent Task Force on Climate-related Financial Disclosures guidelines [7], and big-data analytics systems are increasingly regarded by researchers not as auxiliary mechanisms, but as system-forming elements of a modern cluster capable of substantially reducing transaction costs among participants across different jurisdictions.

At the same time, critical questions regarding the institutional design of cross-border real estate clusters, risk distribution between public and private stakeholders, the structural specificities of the European Union real estate market explored by T. Zhyruk [18], and multilateral financing mechanisms – such as those articulated in the EBRD [12] – remain underdeveloped under conditions of heightened geopolitical and war-related risk, underscoring the direct relevance of the present study.

Formulation of the purpose of the article. The aim of this article is to substantiate a conceptual model of a cross-border urban business cluster in the real estate sector and to identify mechanisms of cooperation between Ukrainian and Eastern European developers in the process of its formation. This involves disclosing the cluster's structural composition – its participant groups and coordinating core – and specifying how these participants interact through sequential loops of value co-creation, infrastructure development, and international cooperation, thereby extending classical cluster theory beyond its assumption of territorial proximity.

The article further aims to translate this model into a typology of cross-border cooperation formats – investment-developer, technological, financial-institutional, and educational-scientific – to assess the comparative cooperation potential of individual Eastern European countries, and to identify the principal risks, expected effects, and a phased implementation roadmap relevant to Ukraine's post-war reconstruction.

Presentation of the main material. The study relies on a combination of general scientific and specific research methods. The method of systemic analysis was used to disclose the structure and internal interconnections of the urban business cluster as an economic system. Comparative analysis was applied to assess the cooperation potential of individual Eastern European countries relative to the needs of Ukrainian reconstruction. The method of structural-functional modelling underlies the proposed four-model framework of cross-border cooperation, while the method of expert generalisation of publicly available analytical reports [3; 13] was used to identify the principal risks and prospective effects of cluster formation. Graphical and tabular methods of data presentation were used to visualise the cluster's structure, its interaction loops, and the phased implementation roadmap.

An urban business cluster in the real estate sector should be regarded as a dynamic system that unites six principal groups of participants, positioned around a coordinating core that harmonises the interests of all stakeholders and formulates a shared development strategy [1; 5]. This structure builds on, but also departs from, Porter's original industrial-cluster model in one important respect: whereas classical clusters typically form around a single dominant industry sharing common suppliers and labour pools, an urban real estate cluster is inherently multi-sectoral, deliberately combining construction, finance, technology, education, and public governance within a single coordinated system (Table 1).

The coordinating core of the cluster – typically an association, a development agency, or a public-private coordination platform – performs three integrative functions: aligning

Table 1

Composition and functions of urban business cluster participants

Participant Group	Representative Actors	Principal Functions	Contribution to the Cluster
Construction Companies & Developers	General contractors, residential and commercial developers	Project design, construction, delivery, and asset management	Direct execution of reconstruction and new-build projects
Investors & Financial Institutions	Banks, real estate funds, institutional and private investors	Capital provision through equity, project finance, and mortgage lending	Financial scale and risk-bearing capacity
PropTech Companies	Software developers, proptech start-ups, data-analytics firms	Digital platforms for management, BIM design, smart-city tools	Efficiency gains and process digitalisation
Universities & Research Centres	Technical universities, urban-studies faculties, research institutes	Workforce training, applied research, technology testing	Human capital and innovation pipeline
Public Authorities	Municipalities, regional administrations, ministries	Urban planning regulation, permitting, investment policy	Regulatory legitimacy and public infrastructure support
Coordination & Advisory Partners	Industry associations, donor agencies, chambers of commerce	Strategic alignment, risk-sharing, external representation	Governance and cross-border interface

Source: compiled by the author on [1; 5; 20]

the strategic priorities of participants, distributing risk among public and private actors, and representing the cluster in negotiations with international partners and financial institutions [2; 12]. The conceptual structure of the urban business cluster, illustrating the position of the coordinating core relative to the six participant groups is shown in Figure 1.

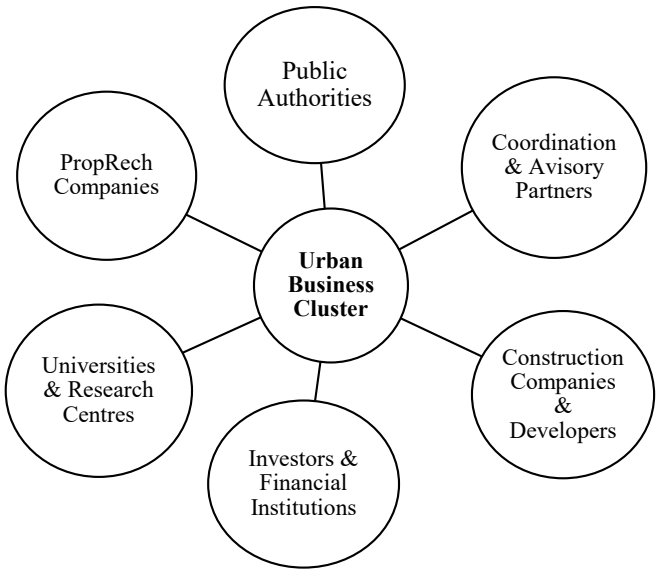


Figure 1. Conceptual structure of the urban business cluster

Source: compiled by the author on [2; 8]

Interaction among cluster participants is implemented through three sequential loops, illustrated in Figure 2. The first loop – joint value co-creation in the real estate market – involves pooling the resources of developers, investors, and technology companies to implement projects that no single participant could execute independently with comparable efficiency [5]. The second loop concerns the development of urban infrastructure and the enhancement of territorial investment attractiveness, which creates favourable conditions for attracting additional capital [6]. The third loop – international cooperation – ensures that the cluster extends beyond the national market and integrates the city into global networks of real estate, capital, and services [2; 4].

It is precisely the third loop that is of particular interest in the context of Ukrainian-Eastern European interaction. A cross-border urban cluster differs from a classical one in that its participants are territorially dispersed across several countries, yet united by shared projects, technological platforms, and investment instruments [6; 10]. The formation of such clusters involving Ukrainian and Polish, Romanian, Slovak, Lithuanian, or Czech companies can proceed according to several models [4].

Four complementary models of cross-border cooperation between Ukrainian and Eastern European developers can be distinguished on the basis of the function performed and the type of resource exchanged (Table 2).

The first model – investment-developer – involves the creation of joint ventures or consortia to implement specific projects on Ukrainian territory, primarily within the framework of rebuilding destroyed housing stock and industrial infrastructure. Polish and Baltic developers, who have experience rapidly scaling construction capacity after accession to the European Union, can transfer managerial practices and quality standards to Ukrainian partners while gaining access to a large-scale and long-term reconstruction market [3; 13].

The second model – technological – is based on cooperation among PropTech companies. Ukraine's IT sector possesses significant potential in developing digital solutions for real estate management, design, and urban data analytics [7]. Integration of these solutions into Eastern European developer ecosystems can occur through joint technology hubs, accelerators, and pilot implementations at partners' project sites.

The third model – financial-institutional – concerns the interaction of banking institutions, real estate funds, and insurance companies of partner countries in creating joint financing instruments for reconstruction projects, including mechanisms for guaranteeing

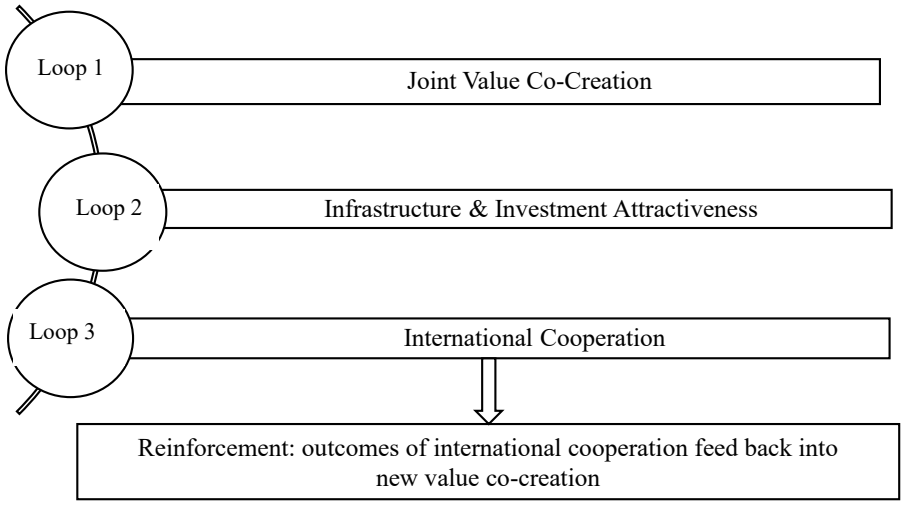


Figure 2. Sequential interaction loops within the cluster

Source: compiled by the author on [2; 4; 6]

Table 2

Models of cross-border cooperation between Ukrainian and Eastern European developers

Model	Primary Focus	Key Mechanisms	Illustrative Partner Countries
Investment-Developer	Joint execution of construction and reconstruction projects	Joint ventures, consortia, transfer of managerial and quality standards	Poland, Lithuania, Latvia
Technological	Digital transformation of development and property management	Joint tech hubs, accelerators, pilot deployments of PropTech solutions	Estonia, Czech Republic, Poland
Financial-Institutional	Mobilisation and de-risking of investment capital	Blended finance, war-risk insurance, joint real estate funds	Poland, Romania, EU/ EBRD-backed partners
Educational-Scientific	Workforce development and applied research	Joint degree programmes, research consortia, technology test-beds	Poland, Czech Republic, Slovakia

Source: compiled by the author on [6; 21]

investment against war-related risks, which currently constitute a key barrier to attracting foreign capital into Ukrainian real estate [3; 12].

The fourth model – educational-scientific – envisages cooperation among universities in training specialists in urban studies, development, and real estate management, as well as joint research projects addressing post-war reconstruction, energy-efficient construction, and sustainable urban development [4].

Illustrative application of these models can already be observed in embryonic form. Within the investment-developer model, several Polish construction groups have opened project offices in western Ukrainian cities since 2023, initially focused on modular and prefabricated housing for internally displaced persons, with an explicit intention to scale toward permanent residential development once insurance and guarantee mechanisms mature [13]. Within the technological model, Ukrainian PropTech start-ups specialising in construction-site monitoring via drone imagery and satellite data have begun piloting their platforms with Central European construction contractors, demonstrating the feasibility of technology flowing outward from Ukraine rather than only inward [7]. Within the financial-institutional model, blended-finance structures combining EBRD guarantees with commercial bank lending have started to appear for selected reconstruction projects, offering a template that could be replicated at cluster scale [12]. These early instances, while limited in number, indicate that the four-model framework is not purely theoretical but reflects tendencies already visible in the market.

Practical analysis of potential partners identifies several Eastern European countries whose cooperation is most promising for forming cross-border urban business clusters with Ukraine. Table 3 compares the principal strengths, cooperation focus, and complementary Ukrainian regions for each partner country.

Poland, sharing a common border with Ukraine and possessing the greatest experience absorbing Ukrainian labour resources and capital, is a natural hub for launching pilot cluster initiatives [13]. Polish development companies have actively expanded construction capacity over the past two decades and have well-established mechanisms of interaction with European real estate funds, making them valuable partners in transferring managerial expertise. The logistical proximity of Polish border cities, such as Lublin and Rzeszów, to the Ukrainian cities of Lviv, Lutsk, and Ivano-Frankivsk creates the basis for forming a dual-purpose border cluster combining production-logistics and development functions.

Table 3

Comparative cooperation potential of Eastern European partner countries

Country	Key Strengths	Cooperation Focus	Complementary Ukrainian Regions
Poland	Shared border; large-scale post-accession construction growth; deep experience absorbing Ukrainian labour and capital	Pilot cluster hub; managerial and quality-standard transfer	Lviv, Lutsk, Ivano-Frankivsk
Romania	Post-accession housing modernisation; Constanța port infrastructure	Logistics-development cluster; materials supply corridors	Odesa, Chernivtsi, Vinnytsia
Slovakia	Energy-efficient construction expertise; proximity to Carpathian regions	Energy-infrastructure retrofit pilots	Zakarpattia, Lviv
Czech Republic	Advanced smart-building and engineering technology base	PropTech pilots in energy monitoring and automated building management	Western and Central Ukraine
Lithuania	High digitalisation of land cadastre and permitting systems	E-governance transfer for urban planning digitalisation	Northern and Central Ukraine
Latvia	Regional logistics and port-linked development experience	Reconstruction-corridor logistics integration	NorthernSource: Ukraine
Estonia	Global leader in e-governance and digital public services	Digitalisation of permitting and cadastral procedures	Nationwide pilot digitalisation

Source: compiled by the author on [7; 8; 13; 15]

Romania is of interest as a partner in the context of developing the southern and south-western directions of reconstruction, particularly in the Odesa, Chernivtsi, and Vinnytsia regions. Romanian experience in large-scale housing stock modernisation following EU accession, together with the developed port infrastructure network of Constanța, creates preconditions for forming a logistics-development cluster oriented toward integrating maritime and overland routes for the supply of construction materials [2].

Slovakia and the Czech Republic are of interest primarily as sources of technology transfer in energy-efficient construction and smart engineering systems, which is particularly relevant for Ukraine in the context of restoring energy infrastructure damaged by hostilities. Cooperation with Czech and Slovak PropTech companies can proceed through joint pilot projects implementing energy-monitoring systems and automated building management at reconstruction sites [7].

The Baltic states – Lithuania, Latvia, and Estonia – demonstrate some of the region's highest levels of digitalisation of public services in the real estate sector, particularly electronic land cadastres and permitting systems. Estonia's e-governance experience could be adapted to digitalise Ukrainian urban planning procedures within the framework of cluster cooperation, substantially reducing project approval timelines and increasing market transparency for foreign investors [4].

A reconstruction corridor format deserves particular attention, covering the route from Baltic ports through Poland to the western and central regions of Ukraine. Within such a corridor, logistics, manufacturing, and development companies from several countries can be integrated to jointly ensure the supply of construction materials, equipment, and investment capital to priority reconstruction zones [2; 13].

Analysis of the potential effects of cross-border clustering allows several levels of impact to be distinguished (Table 4).

At the micro-level, cluster participants gain access to new markets, technologies, and sources of financing, which enhances their competitiveness. At the meso-level, urban

Table 4

Effects of cross-border clustering by level of impact

Level	Type of Effect	Illustrative Indicators
Micro (firm level)	Access to new markets, technologies, and financing sources; higher competitiveness	Number of joint projects; revenue growth; technology adoption rate
Meso (territorial level)	Urban infrastructure development; rising investment attractiveness of specific locations	Volume of infrastructure investment; permitting time; occupancy/absorption rates
Macro (national level)	Integration into global capital and service markets; diversified reconstruction financing; competency transfer	Share of foreign direct investment in real estate; number of active cross-border clusters

Source: compiled by the author on [3; 5; 6; 11]

infrastructure develops and investment attractiveness increases in the specific territories and settlements included in the cluster. At the macro-level, cluster interaction contributes to the integration of the national real estate market into global capital and service markets, the diversification of external financing sources for reconstruction, and the transfer of managerial and technological competencies [3; 5; 6].

An important role in launching cross-border clusters belongs to international financial institutions and donor programmes. The European Bank for Reconstruction and Development, the European Investment Bank, and European Union programmes oriented toward Ukraine's reconstruction can perform the function of a trust catalyst for private investors, providing guarantees, concessional financing, and technical assistance at the cluster-formation stage [3; 12]. Combining public and private capital within public-private partnership mechanisms is one of the key factors of viability for cross-border development projects in a zone of elevated risk.

The formation of cross-border clusters in the real estate sector is accompanied by a range of challenges (Table 5).

These include differences in the regulatory regimes of participating countries, particularly regarding land relations, permitting procedures, and real estate taxation; currency and war-related risks that complicate long-term financial planning; an insufficient level of digitalisation in certain segments of the Ukrainian real estate market compared to EU partners; and the need to build trust among participants who have traditionally competed in adjacent markets rather than cooperated [6; 12]. Insurance and guarantee mechanisms deserve particular

Table 5

Principal risks and mitigation approaches

Risk Category	Description	Mitigation Approach
Regulatory divergence	Differences in land relations, permitting, and taxation regimes among partner countries	Harmonisation with EU acquis; joint standard-setting within the cluster
Currency & war-related risk	Exchange-rate volatility and security risk complicate long-term financial planning	War-risk insurance, donor and EBRD/EIB guarantee mechanisms
Digitalisation gap	Uneven digital maturity between Ukrainian and EU-partner real estate markets	Technology-transfer pilots; PropTech cooperation model
Trust deficit	Historically competitive rather than cooperative relations among market actors	Phased pilot projects; transparent governance and shared standards
Interest asymmetry	Foreign partners may favour short-payback projects over long-horizon infrastructure needs	Role differentiation: private capital for commercial segments, donor/state capital for critical infrastructure

Source: compiled by the author on [3; 6; 12]

emphasis among these risks, since war-related risk is the single factor most frequently cited by prospective foreign investors as a barrier to committing capital to Ukrainian real estate projects [3]. Multilateral war-risk insurance facilities, co-financed by donor governments and international financial institutions, are therefore not merely a supporting measure but a precondition for the financial-institutional cooperation model described in Section 6 to function at meaningful scale.

A further important risk concerns the possible asymmetry of interests among cluster participants. Foreign partners primarily interested in rapid returns may favour projects with a short payback cycle, whereas the long-term tasks of rebuilding urban infrastructure require a considerably longer investment horizon [3]. This asymmetry can be addressed through the differentiation of participant roles within the cluster: private developers and investors concentrate on commercially attractive segments (residential and commercial real estate in relatively safe regions), while financing for social and critical infrastructure facilities is secured through the participation of state and international donor funds within the same cluster alliance.

Overcoming the identified challenges requires a phased approach to cluster formation, illustrated in Figure 3. At the first stage, it is advisable to launch limited-scale pilot projects involving a small number of partners with a clearly defined zone of responsibility. At the second stage, the composition of participants is expanded, and interaction is institutionalised through the creation of joint cluster governance bodies. At the third stage, the accumulated experience is scaled to other regions and to industries adjacent to real estate, including construction materials manufacturing, logistics, and energy [2; 13].

A promising direction for the further development of cross-border urban clusters is their integration into broader macro-regional initiatives, such as the Three Seas Initiative, which unites Central and Eastern European countries around shared infrastructure and investment projects [4]. Participation of Ukrainian cities in such initiatives in the format of cluster cooperation would allow not only the attraction of capital for reconstruction but also the consolidation of long-term economic ties with a region that is a strategically important partner for Ukraine on its path toward European integration.

The proposed conceptual model extends existing cluster theory in two respects. First, it demonstrates that the classical territorial-proximity assumption underlying Porter's original framework [1] need not hold for real estate clusters operating under conditions of forced cross-border expansion: shared digital platforms, joint financing instruments, and harmonised regulatory standards can substitute, at least partially, for physical co-location. Second, it highlights the distinctive role that donor institutions and public guarantees play in de-risking private investment in a post-conflict market – a factor that receives limited attention in cluster literature focused on stable economies [3; 12].

A further point of discussion concerns the governance form most appropriate for a cross-border urban cluster. Three broad options can be considered: a loose network coordinated by a bilateral memorandum among industry associations; a formal joint-stock consortium with pooled capital contributions from participating companies; and a hybrid public-private platform anchored by a development agency with donor co-financing. Each option carries distinct trade-offs between flexibility and accountability. Loose networks are easier to initiate

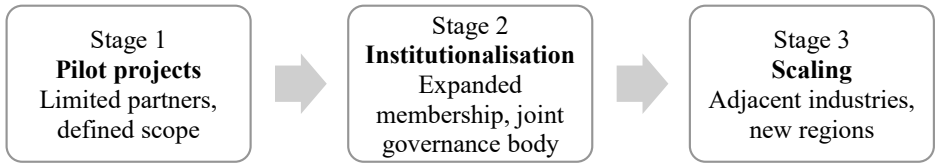


Figure 3. Phased roadmap for cross-border cluster implementation
Source: compiled by the author on [2; 13]

but offer weaker guarantees to investors; formal consortia provide stronger commitments but require more time and legal complexity to establish, which may be poorly suited to the urgency of reconstruction; hybrid platforms appear best positioned to combine speed with credibility, provided that donor institutions are willing to anchor the initial governance structure [12]. This trade-off should be tested empirically as pilot clusters are established, since the theoretical framework alone cannot determine the optimal governance form independent of context.

The proposed framework should also be read against its limitations. The analysis is primarily conceptual and draws on secondary analytical sources rather than primary survey or interview data with developers on either side of prospective clusters; consequently, the identified models and country rankings should be regarded as hypotheses for empirical testing rather than as established findings. Security conditions in Ukraine remain volatile, and the feasibility of specific projects within any given cluster is highly sensitive to the trajectory of the war and to the pace of post-war normalisation, both of which lie outside the scope of this study. Future empirical research should test the proposed four-model framework against pilot cases as they emerge, in particular by tracking transaction costs, project delivery timelines, and investor retention rates within the first cross-border pilot clusters established in border regions such as Lviv-Lublin or Chernivtsi-Suceava.

Conclusions. Urban business clusters constitute an effective instrument for organising interaction among real estate market actors, uniting construction companies, developers, investors, financial institutions, PropTech companies, universities, and public authorities around the shared goal of territorial development. In the context of Ukraine's post-war reconstruction, the formation of cross-border clusters involving developers from Eastern European countries acquires particular significance, allowing Ukraine's need for capital, technology, and managerial expertise to be matched with partners' interest in expanding their presence in a promising reconstruction market.

The proposed model of a cross-border cluster, encompassing investment-developer, technological, financial-institutional, and educational-scientific components, provides a foundation for the phased integration of Ukrainian cities into global real estate, capital, and service markets. Implementing this model requires coordinated state policy, harmonisation of regulatory norms with European standards, and the establishment of institutional platforms for coordinating cluster participants' activities at both the national and international levels. Further research should be directed toward developing concrete organisational-economic mechanisms for launching pilot cross-border clusters in cities requiring priority reconstruction, and toward the empirical validation of the effects summarised in Table 4 as pilot initiatives mature.

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