



UKRAINIAN
CLUSTER
ALLIANCE

SHAPING RESILIENT FUTURE

Mobilizing clusters
for common secure
and
sustainable future

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Executive summary

The new document of the Ukrainian Cluster Alliance (UCA) 'Shaping Resilient Future' presents the organisation's position on Resilience, based on the UCA's three-year journey. It also outlines the vision for the further development of the cluster movement as one of the key drivers of Ukraine's economic, technological and institutional resilience.

Founded in 2022 as a response by clusters to the threat of economic collapse, the UCA now brings together more than 40 clusters, representing about 70% of the national cluster potential, covering industry, energy, healthcare, agriculture, IT, transport and other strategic sectors. Over the past three years, the UCA has formed a system of interaction between business, science and government, becoming a recognised centre of excellence for innovation, twin transition and international cooperation

The new portfolio of programs and projects presented by the UCA for 2025-27 includes more than 50 cluster projects within 10 strategic Clusters4X programs, among which (X) are the defence industry, agro-industry, energy, medicine and healthcare, others, as well as ecosystem areas such as retraining and the dual transition of SMEs.

The document clearly demonstrates how clusters are gradually becoming architects and orchestrators of systemic resilience:

- ensure the continuity of value chains and critical production;
- create new ecosystems for innovation, R&D and dual education;
- actively integrate into European programs and networks such as Horizon Europe, Interreg, Digital Europe and EDIH;
- develop their own solutions for recovery, defence, and the green and digital economies.

The concept of 'cluster resilience DNA' presented in the document describes five strategic principles: Resilience First, Think Big, Solidarity Matters, Building a Culture of Collaboration & Leadership, Switch to Strategic Programs through Foresights.

This framework offers not only an understanding of the experience of Ukrainian clusters, but also a roadmap for partners in the Euro-Atlantic bloc and other countries on how to jointly shape the architecture of a new sustainable Europe.

The Ukrainian Cluster Alliance invites government agencies, international organisations, donors and businesses to join forces in joint programs. Together, we are building a resilient future.

CEO of UCA Yurchak Oleksandr

About the Ukrainian Cluster Alliance

The Ukrainian Cluster Alliance (UCA), www.clusters.org.ua – is a national association of 40+ clusters from Ukraine, representing various industries and regions of Ukraine. UCA was created in March 2022 as a response of the Ukrainian cluster community to the challenges of the war. United today into one, well-structured organization, the clusters have become more resilient, more motivated, and more strategically oriented towards sustainable development and integration into the European cluster network. In 2022-25, UCA implemented and participated in about 100 events at both international and national levels aimed at cluster internationalization, developing their organizational capacity, innovation fundraising, the twin transition, advocacy, and lobbying, etc.

Main activities and results of UCA in 2022-25:

- **Institutionalization of clusters.** UCA is the single, common "voice" of Ukrainian clusters in relations with government organizations and international partners. In 2024-25, together with government organizations and international partners, we launched projects to create a national cluster policy and initiated 6 regional cluster support programs.
- **Growth and unification of Ukrainian clusters.** UCA today unites more than 40 cluster organizations, which constitutes more than 70% of the active clusters in Ukraine. We are growing not only in quantity; our budget and the number of joint projects increase annually.
- **Internationalization.** UCA has dozens of partnerships with organizations from the Euro-Atlantic bloc and is a member of the European Cluster Alliance and the global cluster organization TCI. The Professionals4Ukraine program, created in 2022, today unites more than 30 ambassadors from 18 countries of the Euro-Atlantic bloc. In 2024-25, 5 UCA clusters, and UCA itself as an organization, joined consortia that won the European competition for European Digital Innovation Hubs (EDIH). RMMC (Rivne Interregional Medical Cluster) joined the Regional Innovation Valleys consortium in the Health sector – PRESICEU.
- **Organizational capacity.** UCA has established systemic services for young clusters, offering them a range of shared services. These include fundraising, networking and matchmaking, training and experience exchange for cluster managers, internationalization, cluster certification according to the European ESCA standard, etc.
- **Fundraising.** Over 3 years, UCA has set up services and attracted over 100 SMEs to innovation fundraising, with more than 3 million euros in funding raised. UCA clusters are actively entering European programs (Horizon Europe, Digital Europe, Interreg, SMP, EIT) and have also secured their first bilateral

agreements. The annual number of such projects, including those supported by international donors in Ukraine (GIZ, UNDP, UNIDO, UCORD-NIRAS), will be over 20 in 2025, and this number is growing.



. Ukrainian clusters on a business mission in Brno, Czech Republic, October 2025

UCA clusters have proven they can help their members, SMEs, and entire economic sectors at the regional and industry levels. Ukrainian clusters are becoming important actors of economic stability, drivers of innovative development among SMEs, and reliable partners for government, local communities, and business in supporting critical infrastructure and critical industries, as well as in planning recovery programs.

UCA is organized as a structure with shared **Resource Centers** (RC, industry and inter-industry levels) and expert Committees involved in policy-making. Today, these structural units include:

- **Industry RCs:** Agrifood industry and Healthcare
- **Inter-industry RCs:** Smart.Industry, Dual-Use
- **Coordination Center for International Activities:** Professionals4Ukraine
- **Committees:** Innovation and Cluster Policy, Twin (Digital and Green) Transition

UCA is open to cooperation with government organizations, regional and local authorities, foreign clusters and cluster associations, international organizations and donors, industry business associations, and other structures interested in the development of Ukraine's clusters.

Our cooperation is based on the understanding that our Resilience and the Reconstruction of Ukraine require a huge mobilization of resources - both our own and those of many international partners - but also effective coordination and coherence of actions in dozens of different programs and projects.

For more information, see www.clusters.org



UCA among the participants of the TCI conference in Dublin, October 2025

Context and Challenges of Resilience for Clusters

The full-scale war caught Ukraine in a transitional moment – from deindustrialization, which had lasted for over 10 years – to a new economic order. The National Economic Strategy adopted by the Cabinet of Ministers of Ukraine in 2021 envisaged a whole range of measures to include tools aimed at the development of a new, modern industry, defense complex, and new sectors of the service economy.

But the war prevented their real launch. Consequently, the war immediately deepened the negative phenomena that existed in Ukraine even before 2022. This includes the low level of clustering in economic sectors and weak value chains, the lag of industrial SMEs in most areas of the twin transition, the brain drain from manufacturing segments to emigration or the IT industry, gaps between science and business, etc.

With the exception of the defense industry segments, the war also reduced the demand and budgets of enterprises for implementing innovations. Responding to these challenges, the government of Ukraine initiated a number of measures back in 2022 - programs were launched to support small and medium-sized businesses, including export-internationalization, a record budget was allocated for dual-use and defense technologies, and numerous grant programs began to reorient towards providing more support to the real sectors of the economy.

The European Union, as well as individual partners from the USA, provide enormous help in supporting the cluster movement.

Thanks to this support, Ukrainian clusters were able to withstand the first 3 years of the war and are now entering a new stage of growth. However, in a broader context, the real issue lies in the scale, purposefulness, consistency, and integrity of all support measures to address the challenges of Resilience in all aspects - defense, economic, social, and institutional.

UCA's policy is aimed at forming medium- to long-term strategies and approaches that counter fragmentation, weak coordination, and a lack of strategic focus.

In particular, the new challenges that UCA clusters consider in their programs and projects concern:

- Strengthening the Dual-Use / MilTech sectors – for obvious reasons
- Energy transformation, caused by the destruction of the country's energy sector
- The human capital crisis, which is becoming the #1 problem in many businesses (due to the mobilization of men into the army and other losses of human capital)
- The lag of Ukrainian SMEs in the twin, digital, and green transitions

- Systemic long-term support for the country's cluster movement, which is now especially important for the aforementioned critical infrastructure and defense-industrial complex sectors
- Better and more intensive integration into European value chains and innovation ecosystems

In its project proposals to European partners, UCA considers the above challenges as priorities. Our economic stability, support for the armed forces, and thus our victory, depend on how effectively clusters, together with other business communities, can respond to new and old challenges, find resources, and mobilize them.

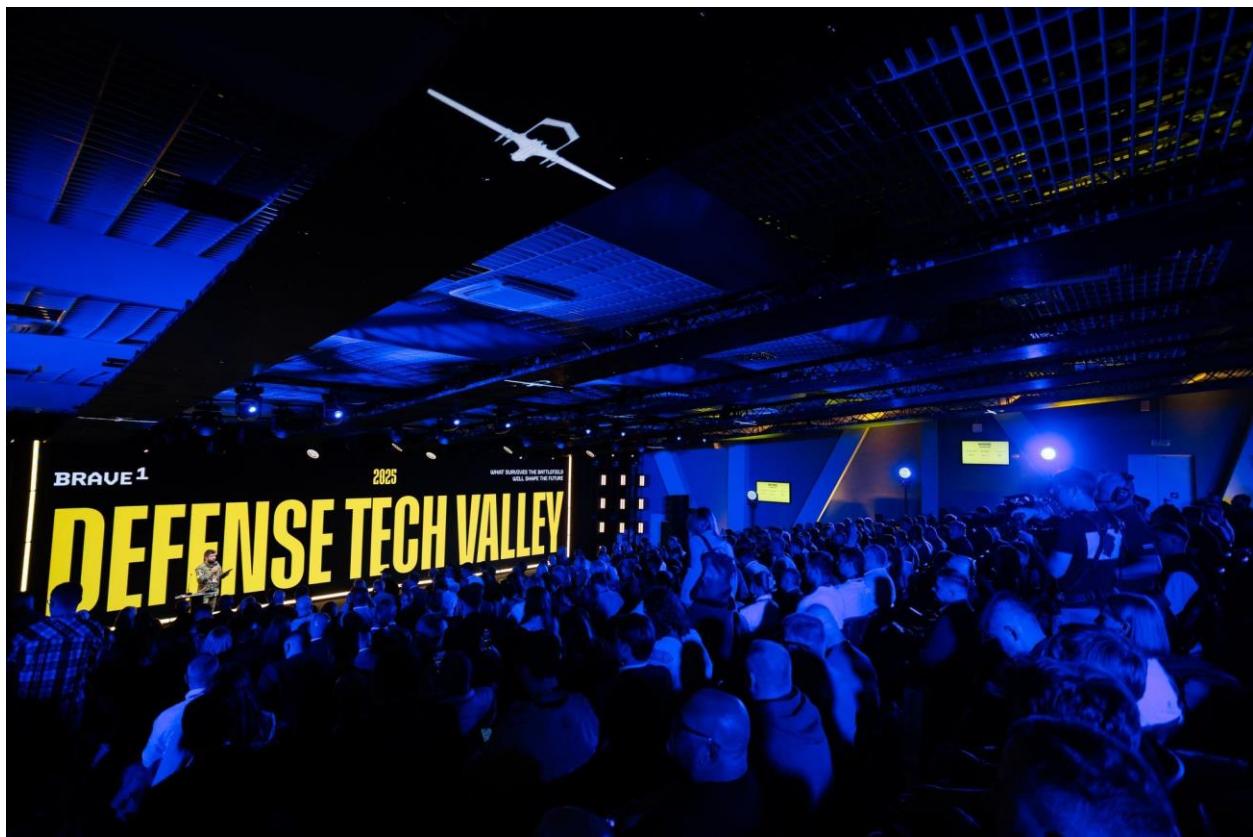


Photo 3. Defense Tech forum, organized by Brave 1 in September 2025. UCA is a traditional information partner of the forum, in which Ukrainian clusters also participate.

Concept of Cluster Resilience

Resilience in the context of clusters is about the ability of business communities to adapt to extreme challenges, maintain effectiveness, and recover stronger, but it is also about the ability to see and consider possible new crises and systematically prepare for them. Ukrainian clusters have undergone a unique stress test by war and have proven that true economic resilience is based not only on state decisions but on business cohesion, strong industrial ecosystems, and civic mobilization.

Clusters, as regional and industry-specific industrial ecosystems, have become an important part of the national resilience system—they ensure the continuity of supply chains, rapid adaptation of production, consolidate small and medium-sized businesses, and support innovative solutions, including for the defense sector.

In the UCA clusters' understanding, **resilience is a synergy of state leadership, strong business associations, and the community's capacity for self-organization and mutual aid.**

5 Elements of Resilience for Ukrainian Clusters

In the fall of 2025, UCA conducted a [mini-study on the current state of resilience of Ukrainian clusters](#) and derived 5 main lessons about its own resilience. We conditionally call them the DNA elements of our resilience.

1. RESILIENCE FIRST

Resilience must be the top priority of any policy, program, or strategy. Without it, neither recovery nor development is possible. The Ukrainian experience has shown that the response to threats must be rapid, flexible, and adequate to the new reality.

Resilience First means that any policy or program must begin with the question: "does this make us more resilient in wartime?"

UCA Example:

The Ukrainian Cluster Alliance was born in March 2022—as a collective business response to the threat of economic collapse. From that moment, clusters transformed into centers of anti-crisis coordination: they helped enterprises in critical industries and infrastructure, supported the production of critical components, and ensured communication between government, education-science, and SMEs.

Typical UCA program initiatives:

- **Industry 5.0 Manifesto** – an adapted European framework that integrates the security dimension.

- **Clusters4Defense** – a program for the development of dual-use technologies, which is forming Ukraine's defense-innovation ecosystem.

Resilience is a strategic position, not a post-crisis action. Without it, it is impossible to talk about the green or digital transition, or any other sustainability.



Photo 4. Iron cluster demodays, August 2025

2. THINK BIG – ORCHESTRATE INDUSTRIAL ECOSYSTEMS

True resilience manifests at scale – at the level of entire economic sectors, technological / value chains, and regions. Strong, mature clusters should act as "orchestrators" of industrial and innovative ecosystems, coordinating business, science, and government to create systemic synergy.

UCA Example:

In three years, UCA has united 40 clusters – about 70% of all active clusters in Ukraine. Through the Dual-Use Technologies Resource Center and the Clusters4Defense program, they have developed over 40 projects integrating business, science, and defense – from improving the capabilities of R&D centers, increasing productivity and scaling defense industry enterprises, and training personnel, to the production of new

MilTech products. These initiatives form the "**Resilience by Design**" model – resilience through integrated value chains.

Clusters that think big become not just "participants in recovery," but builders of a new European resilience architecture.

3. SOLIDARITY MATTERS

International and internal solidarity is the key to survival. Ukrainian clusters have maintained viability thanks to the support of partners in the EU, the USA, and their own culture of mutual support among business community members.

UCA Example:

The Professionals4Ukraine program (2022) became the main channel for integrating Ukrainian clusters into European networks. It united over 30 experts from the EU and the USA who supported project development in smart industries, cybersecurity, and export cooperation. At the same time, 3-year missions like the Czech-Ukrainian Smart Industries Exchanges proved that solidarity can become a resource tool for resilience when it transitions into systemic and repeatable joint actions, rather than being limited to one-time aid.

Solidarity must be institutionalized: through joint programs, long-term partnerships, and the exchange of people and resources. This is the foundation of European economic security.

4. BUILDING A CULTURE OF COLLABORATION & LEADERSHIP

In conditions of limited resources, it is cooperation, trust, and leadership that determine success. Conversely, war causes a chronic shortage of resources, and competition for them can destroy communities. The experience of Ukrainian clusters shows that those who choose cooperation over rivalry survive. Clusters that have managed to maintain partnership and unified leadership demonstrate the highest level of resilience and innovative capacity.

UCA Example:

Ukrainian clusters, lacking state support, survived thanks to horizontal cooperation. Resource centers of medical clusters and dual-use technologies, joining with universities within EDIHs, working groups of the Ukrainian Industry 5.0 Community of Practice (CoP 5.0), systemic consolidation of clusters in foreign missions - this is all about interaction and cooperation. New UCA initiatives like "**Leader of Practice**", "**Support First**" and **Win-Win** create a new culture of mutual support among cluster managers and leaders, and form a new type of leadership school where the main value is not resources, but trust.

Clusters form the "social capital of trust" – something that cannot be bought or created by directive, but without which the resilience of neither institutions nor nations is possible.



Photo 5. Mike Richardson, an ambassador of the Professionals4Ukraine program, who has visited Ukraine 15 times in 3 years. Mike is a key UCA expert in the Photonics sector - strategic in the Dual-Use / Defense sectors, and most of his initiatives have been voluntary for the clusters.

5. SWITCH TO STRATEGIC PROGRAMS THROUGH FORESIGHTS

True resilience lies not only in the ability to "take a punch" but in the ability to anticipate crises, prepare ecosystems for them, and act preemptively. This practice ensures a transition from reactive responding to strategic foresight. **The Foresight approach** transforms clusters from reactive structures into architects of the future.

UCA Example:

UCA has begun the transition to strategic planning by incorporating foresight tools through participation in the **IDEALIST (Horizon Europe)** program. We have only just begun to master such tools and disseminate them among clusters, primarily the "Dual-Use Technologies" resource center. The concept of creating a **Baltic-Black Sea Technology Platform of clusters**—as Europe's eastern "defense belt"—is an example of shifting from an ad-hoc approach to targeted, preemptive programs. At the same time, the awareness of this principle is extremely important for all our European partners. "Look to the sky" and prepare for new crises.

Foresights and targeted programs for crisis prevention should become key tools for clusters, **especially in the spheres of critical industries and infrastructure**. Real resilience in a war for survival manifests not only where there are more resources - but where **systemic thinking** emerges.



3

Fig.1. Cluster Resilience DNA

Strategic Framework "DNA of Cluster Resilience"

The experience of UCA clusters is valuable for dissemination in Ukraine, including among government structures, but also among our foreign partners. The strategic framework "DNA of Resilience" sets guidelines for policies and actions that various institutions can implement. These are also UCA's proposals for partners.

Element	Strategic Meaning	Policy and Action Guidelines *
Resilience First	Resilience is the basic principle of all economic and industrial policies, including those from business associations	<ul style="list-style-type: none"> - Introduce a 'resilience impact' assessment into all national and regional programs. - Create and popularize a database of best resilience practices, with a focus on the interaction of Business support organizations with government organizations. - Include a component of 'support for resilient ecosystems and clusters' in SME development programs.
Switch to Strategic Programs through Foresights	Transition from reactive management to strategic foresight.	<ul style="list-style-type: none"> - Develop sectoral and regional foresight documents up to 2030 for all critical industry sectors. - Integrate cluster initiatives into the system of state institutions (primarily Dual-Use / Miltech). - Include foresight as a mandatory stage in UCA cluster programs.
Solidarity Matters	Solidarity as a long-term resource, not just aid.	<ul style="list-style-type: none"> - Support a sustainable network of international cluster exchanges (Professionals4Ukraine 2.0). - Institutionalize mechanism(s) for partnership programs at the bi-multilateral level between EU and Ukrainian clusters ('Twin Clusters'). - Ensure funding for cross-border resilience initiatives.
Building a Culture of Collaboration & Leadership	Developing trust and leadership as key intangible resources.	<ul style="list-style-type: none"> - Create a 'Cluster Leadership & Resilience' skills development program. - Stimulate horizontal projects between sectors and regions (peer-to-peer projects). - Support the formation and expansion of the 'Community of Practice 5.0' network.

Think Big – Orchestrate Industrial Ecosystems	Scaling clusters to the level of industrial ecosystems.	<ul style="list-style-type: none"> - Create a state accreditation program for the strongest clusters - position them as sectoral leaders. - More actively integrate clusters into industrial transformation programs (green, digital, defense), incl. 'Made in Ukraine'. - Develop 'Resilience by Design' tools — synergy of SMEs, science, R&D, and production.
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Table 1.

** Note: part of the proposed actions are already included in UCA programs and projects, see the "Leading UCA Programs" section below.*

Resilience is not only the ability to withstand, but the capacity to act strategically, anticipate risks, and change faster than the world changes.

Ukrainian clusters are not only participants in nationwide resilience and recovery – we are ready to cooperate in shaping the new architecture of a resilient Europe.

UCA Program and Project Portfolio

2025–2030

UCA has been systematically developing a project-based approach since its inception, guided by the thesis that **joint projects of clusters and their participants are the best demonstration of the nature of clusters**. The information below reflects the status of current programs and projects as of the end of 2025.

UCA practices planning based on 3-5 year targeted programs, which include strategic priorities (directions) and their corresponding projects. As of November 2025, the UCA project portfolio includes more than 50 projects - ecosystemic, manufacturing, and infrastructural. The portfolio consists of inter-cluster cooperation projects, i.e., joint projects generated by Resource Centers, Committees, individual Working Groups or groups of clusters, and the Executive Directorate itself. According to UCA regulations, joint projects are those that meet the interests of at least 3 UCA clusters, and whose results are significant for many UCA clusters. The entire portfolio is managed (accounted for, organized, and specific projects executed) by the UCA Project Office. The portfolio changes as the situation evolves and new projects or opportunities arise.

The architecture of the current portfolio of strategic projects is presented in Fig. 2.

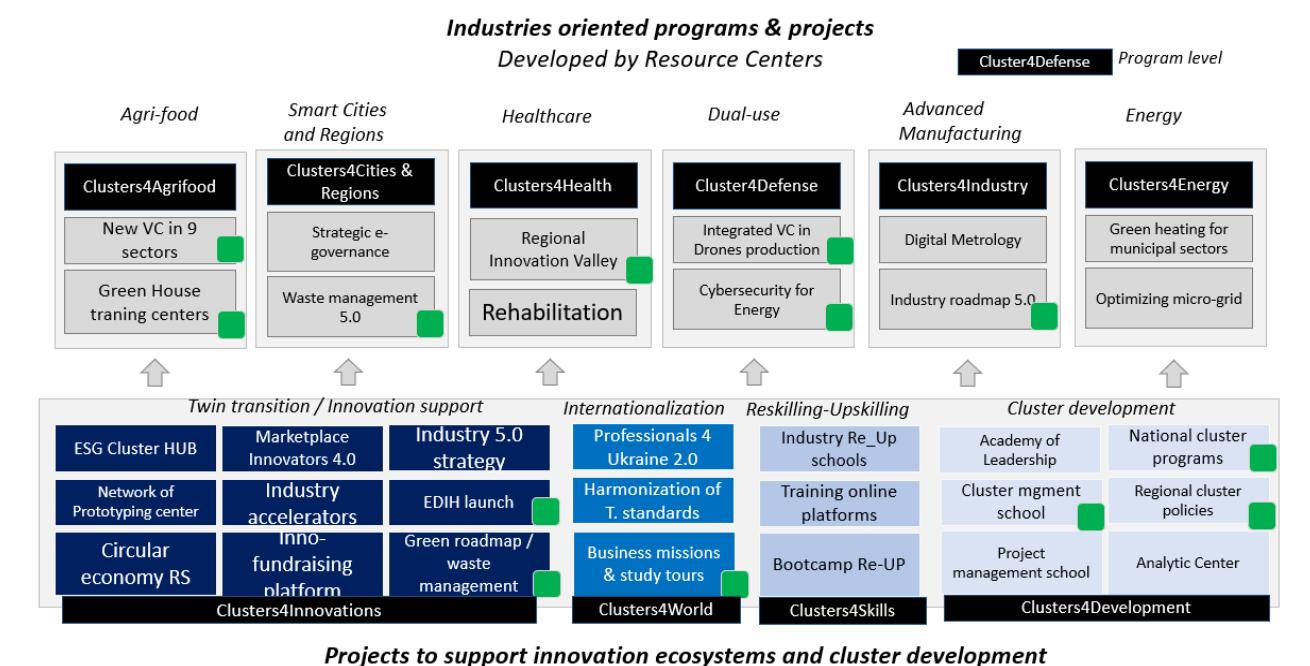


Fig.2. UCA Project Portfolio, October 2025

As shown in the figure, this portfolio covers 10 programs - **6 industry sectors and 4 ecosystem development areas** common to most clusters.

This distribution illustrates the current allocation of potential and expertise in UCA, the capabilities of individual units and the clusters themselves, but also our strategic response to the country's challenges.

A brief description of the programs is presented in Table 2.

No	Program	Area / Goal	Key Activity Areas	Project Examples
A	Industry Programs			
1	Clusters4 Defense	Defense industry, dual-use technologies	R&D development, digitalization of the defense industry, international cooperation, personnel training	Prototyping centers, Innovations in drones, Cybersecurity in power grids
2	Clusters4 Energy	Energy security, green transition	Decentralized energy grids, renewable energy, digital transformation of the energy sector	Decentralized green grids, SmartGrid, new boiler technologies
3	Clusters4 Health	Development of medical clusters	Strengthening and creating new medical clusters, developing HealthTech, startups, launching EU-UA Cluster Accelerator Lab, creating a joint EU-UA Roadmap for a Resilient and SMART Health Ecosystem	ReSkill-UpSkill programs, Personalized and digital medicine, joint projects and partnerships for integrating Ukrainian healthcare into European healthcare
4	Clusters4 AgriFood	Agrarian industry, processing	Restoration of agro-processing, creation of new VCs, development of agro-exports	9 new VCs, Greenhouse cluster in Podillia (ASTAR), Smart Agro Cluster (Volyn)
5	Clusters4 City& Regions	Smart cities and regions	E-governance, management, waste online platforms	Roadmap and platform for waste management at the community level

6	Clusters4 Industry	Digital transformation in industry	Automation, digital and green transition of production	GDT (roadmap), IDEALIST, Textile (roadmap), IDEALIST, Lightweight-EU
B Ecosystem Programs				
1	Clusters4 Innovation	Development of innovation infrastructure	Industry accelerators, marketplaces, roadmaps, platforms, EDIHs	Cooperation with the EDIHs network / new twin transition roadmaps
2	Clusters4 World	Internationalization of clusters	Business missions, exchange programs, bi-multilateral programs	Professionals4Ukraine program, bilateral programs with the Czech Republic and Poland
3	Clusters4 Skills	Education, personnel, retraining	Upskilling/Reskilling of personnel for the new economy, digital education, crisis skills, online platforms	New training programs, training centers, online platforms, unification and best practices
4	Clusters4 Development	Institutionalization. Development of cluster capacities	National and regional development programs. Training programs	Accelerate GDT (nat. Policy), Clusters4Regions (6 reg. programs), training programs

Transformational Industry and Ecosystem Projects

What are projects flagships of Clusters4X programs which show the potential and capacities of clusters? The list below presents typical projects by Industry which UCA clusters plan or already deploys during last 2 years

AgroFood Innovation – restoration of agro-processing, development of agro-exports, new VCs

- **The U-Food Association**, together with the Institute of Agrarian Policy of Ukraine, is implementing a series of [U-Food-2Chains](#) projects to create new value chains (12 sectors). Project participants receive expert support, training, analytics, and access to financing, which facilitates entry into new markets and increases product quality and profitability.
- **The Volyn Smart Agro Cluster**, which united 16 farms with a land bank of 350 hectares, aims to create a processing enterprise for the production of dry potato puree and flakes. A member of the association - Lutsk National Technical University - provides enterprises with virus-free planting material through its own laboratory and greenhouse. This project is included in the development strategy of the Volyn region and has the support of the agro-industrial complex department of the Volyn Regional State Administration.
- **The Greenhouse Cluster project in Podillia (ASTAR)** is a cluster initiative that unites greenhouse producers and entrepreneurs of the Khmelnytskyi region to implement Industry 4.0—5.0 technologies: automatic microclimate control, alternative energy (solar, biomass), innovative irrigation. Pilot projects are being implemented in partnership with educational institutions, other regions, and foreign partners. A new project with the Netherlands is attracting 4 million euros in investments to create a network of training centers.

MedCluster / HealthTech – rehabilitation, biomedical technologies, digital medicine, international partnerships for medical institutions.

- Clusters4Health - ProMedVyr Cluster, Rivne Interregional Medical Cluster - together with 4 European and 1 medical cluster from Norway, promote innovation, cooperation, excellence, and growth of medical clusters, Support startups and create the EU-UA Cluster Acceleration Lab, create a joint Europe-Ukraine roadmap for a sustainable and smart health ecosystem.



Clusters4Health kickoff meeting, Iasi, March 2025

- **Preciseu** (Rivne RMC) - connects health innovation valleys in Europe, developing personalized medicine and Health Data. The main goal is to effectively advance towards truly personalized healthcare, transfer practices and solutions from region to region, and scale deep-tech innovations in healthcare based on advanced therapeutic medicinal products and health data throughout Europe. The Rivne Interregional Medical Cluster aims to become an entry point for medical innovations into Ukraine.
- **ReSkilDefenceForces** (Rivne RMC) - together with the Ukrainian Veterans Fund, we are developing the retraining of veterans into instructors, including pre-medical aid and tactical medicine, with subsequent employment in training centers as instructors in Ukraine. We are developing the "From Veteran to Instructor" methodology, which will help teach and resocialize veterans.
- **New projects for 2026 - 2027:**
 - **Rehabilitation** (Rivne RMC) - Partnerships with European centers, staff training, experience exchange, equipping rehabilitation centers. attracting innovative solutions for physical and psychological rehabilitation from around the world to Ukraine.
 - **VR Revive** - EIT Jumpstarter finalist - a virtual reality simulator for training in pre-medical aid with performance measurement in schools. We aim to develop scenarios adapted for children and adolescents and systematically implement such training in schools, making schools a safe environment.
 - **UpSkillMed** - implementation of systemic courses on pre-medical and early medical aid for non-medical and medical professionals, such as ASSET, ATLS, BLS, PBLS, and others, creation of training centers, strengthening existing ones through partnerships with European training centers, development of joint programs for accelerated training of people considering the experience of the Russian-Ukrainian war.

- **TacMed Bridge** - Helping Ukrainian manufacturers of tactical medicine and combat trauma treatment products enter the European market, and innovative products from Europe to appear on the Ukrainian market.

Circular economy – from waste to resources. Development of regenerative models combining digital technologies, data analytics, and sustainable resource management. The Circular Economy Cluster of Ukraine (CEC) unites scientists, municipalities, and businesses in joint twin transition projects – green and digital, contributing to the creation of a national ecosystem of circular solutions.

- [LIFE D2R-GreenUA](#) (Circular Economy Cluster - WUA) (Debris2Resource: Green Recovery Ukraine, 2024–2027). A European project of the LIFE Program, aimed at implementing a systemic approach to the management of destruction products. Implemented in the communities of the Kyiv region (Irpin, Borodianka, Hostomel) together with Ukrainian and European partners. The goal is to transform construction waste into a resource for sustainable reconstruction by creating the RDMM methodology and the CCBM model.



Photo 7

- **FutureProofTextiles** - an international consortium (European Commission COSME/SMP project “FutureProofTextiles”) of nine partners from Greece, Italy, Spain, Turkey, and Ukraine, which includes the Circular Economy Cluster. The goal is to support 40 SMEs in the textile industry in their digital and green transformation. The CEC is responsible for mapping ecosystems, surveying

enterprises, and analyzing the level of digital maturity and production sustainability, contributing to the creation of "green" supply chains.

FUTUREPROOFTEXTILES

Підтримка МСП для цифрової та зеленої стійкості

СПИСОК ПАРТНЕРІВ

ЗАВДАННЯ 1.1
Провести комплексне мапування викликів цифрового та зеленого переходу текстильної промисловості та міжгалузевих можливостей

ЗАВДАННЯ 1.2
Розробити та розповсюдити опитування серед малих та середніх підприємств для оцінки поточного практики, потреб та бар'єрів

Грант від Програми єдиного ринку (SMP) з компонентом COSME – це програма фінансування ЄС, спрямована на зміцнення європейського єдиного ринку та підвищення конкурентоспроможності бізнесу, зокрема малих та середніх підприємств (МСП). Вона надає комплексний пакет для підтримки управління та функціонування єдиного ринку, забезпечуючи добре функціонуючу, стабілу та стійку економіку.



UNIWA
Греція



CS-POINTEX
Італія



GREMI Textiles
Іспанія



AECIM
Іспанія



GW LLC
Україна



CCE
Україна



BUTEKOM
Туреччина



BCCI
Туреччина



BDC
Болгарія

web-site



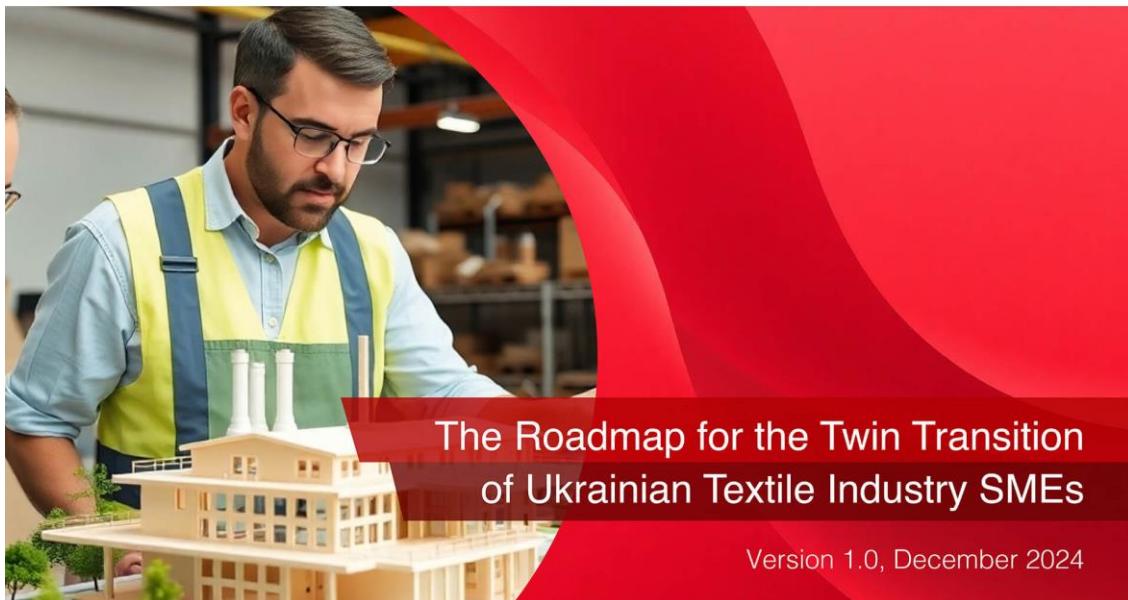
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- Recycling of textile industry waste (Podilskyi Fashion Cluster)

Advanced Manufacturing / Industry 5.0 – new generation production based on innovation and large-scale automation-digitalization.

- **GDT Textile (APPAU)**. The 1st project in Ukraine to create an industry roadmap for the twin transition - in the light industry. Implemented in the second half of 2024. The roadmap offers 80 strategic initiatives for the step-by-step transformation of the industry, including measures for modernizing production, implementing innovations, and environmental practices, which together significantly increase the competitiveness of all participants. Part of the initiatives are already being implemented by the Podilskyi Fashion Cluster in cooperation with EDIH Clotex.



- [IDEALIST](#) (APPAU). The project offers support to SMEs in the twin transition in industrial ecosystems such as energy-intensive industries, aerospace, and defense, and transport. The project includes 11 clusters from 7 EU countries and will run until 2027. It provides cluster members and SMEs with services for the twin transition, access to best European practices, and integration into EU value chains. For UCA clusters, the project is interesting for its cluster cooperation practices, including foresight techniques, which are especially important in the context of Resilience.
- [Lightweight-EU](#) (UCA). An Interreg program project for sharing best practices in creating development tools in the advanced materials sector. These materials, especially in the "lightweight" sector, play a key role in reducing CO₂ emissions, improving energy and resource efficiency, which directly corresponds to the goals of European programs like the European Green Deal, Green Deal Industrial Plan, and Critical Raw Materials Act. UCA represents Ukraine; participants from other countries represent research institutions and clusters from Slovakia, Austria, Spain, Germany, and Norway.
 - **New projects:** In 2025, the "Prykarpatty Industrial Cluster" plans to develop regional innovative cluster infrastructure - to create an annual acceleration program to address the most pressing urban, environmental, industrial, and entrepreneurial problems of the region based on the cluster's innovation accelerator with the participation of the region's scientific, educational potential, and local self-government bodies.

Dual-use technologies and Defense Industry – innovations, personnel training, and production scaling. The portfolio in this area includes the developments of 10 clusters of the "Dual-Use Technologies" Resource Center, distributed by direction:



- **Digital transformation of the Defense Industry** – initiatives developing new competencies, practices, pilots. UCA's clusters adopted Industry 5.0 to the local market, so we talk about **triple transition**, - **digital, green and security**.
- **Development of R&D infrastructure** – a network of prototyping centers creates a physical base for startups.
- **Personnel training** – IT Connect, BootCamp UA, Reskilling cover both initial IT training and engineering upskilling, basic military training.
- **International cooperation** – cluster exchanges, advocacy, the C4D campaign strengthen integration into European programs (EDF, Horizon).
- **Civil defense** – training in security skills forms a reserve of citizens ready for resistance.
- **Projects by product areas** - cybersecurity, drones, robotics, space technologies, tacmed, photonics, etc.

Of these, funding is already secured for:

- **Drone Production:** The All-Ukrainian Association of Innovation and Space Clusters (AUISC) is a member of the new meta-cluster **European Cluster for Drone Innovation (ECDI)**. ECDI includes four clusters that are experts in the field of aeronautics, space, defense, and unmanned aerial vehicles. In addition, the project cooperates with other support network organizations, which will allow the project to support small and medium-sized enterprises (SMEs) in their green and digital transition. In addition to the twin transition, the project aims to diversify the activities of SMEs in the field of dual-use technologies.
- **Cybersecurity in Energy** (Ukrainian Cybersecurity Cluster): in 2026, it starts a new project **[CyberJab.ua](#)** (CZ–UA Pilot), which will create a training and testing platform for the cyber defense of SCADA systems in the regional power grid system (oblenenergo). Implemented in 2025–2026 in Ivano-Frankivsk and Brno with the support of the Czech government. The goal is to increase the resilience of power grids through a digital twin, AR/VR training, and cyberattack simulations. It is expected to improve operator response and the security of the SCADA system.

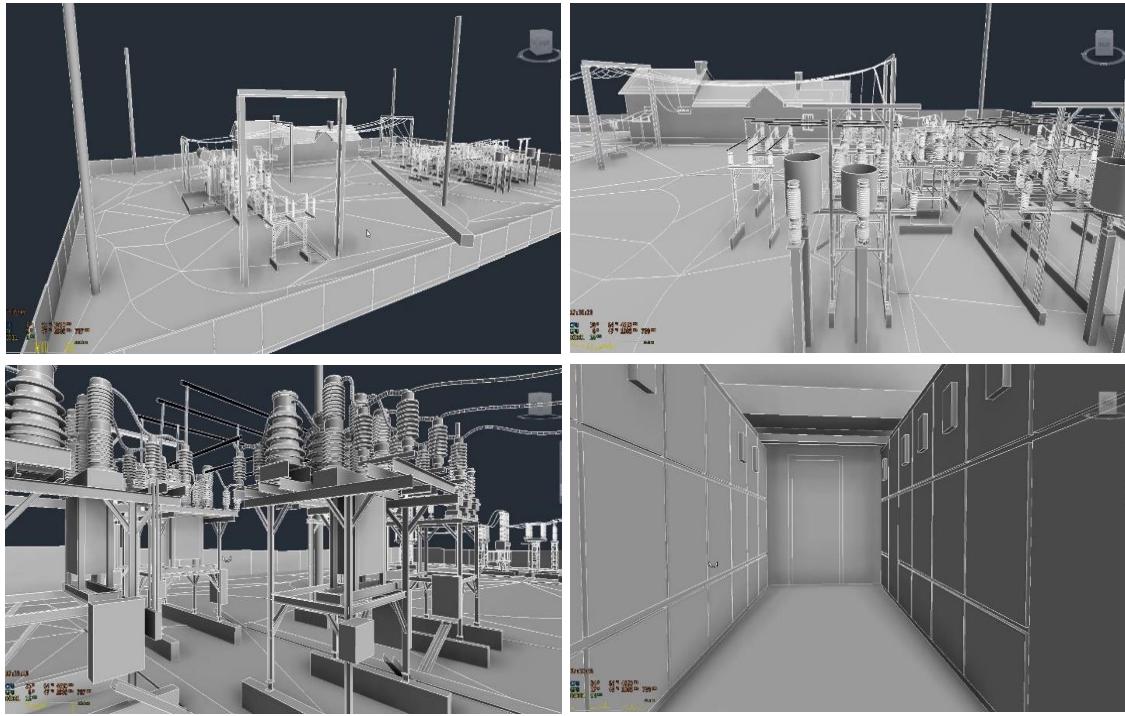


Photo 10 Figure SEQ Figure 1 ARABIC 3 Substation Iltsi 110/35/10kV – BIM (3D) model*

Of the new projects, the highest priority is the launch of an **integrated network of prototyping centers**, which is now crucial for improving SME and innovative startup access to modern R&D infrastructure to shorten new development cycles.

- **Energy - Thermal Energy Cluster of Ukraine**

- **Thermal reconstruction of communities** (Thermal Energy Cluster of Ukraine) - The project aims to increase the energy resilience and autonomy of communities affected by the war or in need of modernizing their heat supply systems.
- The initiative includes: conducting energy audits and analysis of thermal infrastructure, developing individual technical solutions, training representatives of communities and utility companies; providing Ukrainian-made equipment for implementing pilot solutions (boilers, modular boiler houses).

Key Instruments for the Development of Industrial Ecosystems

UCA INSTITUTIONAL PROJECTS

Recognizing clusters as economic entities and important tools for innovative, industrial, and regional development requires a legislative framework. Until 2024, Ukrainian clusters had no legal or regulatory documents that would solidify their status. And almost (with the exception of individual regions) no support from the state. This situation sharply contrasts with European practices, where clusters have diverse support and cooperate with state structures at national and regional levels.

Accordingly, in 2024-25, 2 projects were launched in Ukraine on UCA's initiative:

- The [Accelerate GDT](#), project, supported by Interreg Europe, where the Ministry of Economy is an associated partner. Within the project, a draft Concept for Cluster Development has already been developed, which provides for a number of support tools. The concept is planned for adoption by the end of 2026.
- The [Clusters4Regions](#), project, supported by UCORD, which is closely linked to Accelerate GDT - it involves the development and implementation of cluster policies in 6 regions of Ukraine - Sumy, Vinnytsia, Khmelnytskyi, Ternopil, Volyn, and Odesa regions. At present, the regions have developed 6 programs that are pending approval.



Ukrainian team among the participant Accelerate GDT project. Budapest, Feb-25

The implementation of cluster support programs at both national and regional levels will create a strategic framework for recognizing and positioning clusters as important tools for economic development and reliable partners of the state. Together, this will significantly strengthen our resilience in the difficult conditions of war and post-war recovery.

TWIN TRANSITION OF INDUSTRIAL SMEs

This category has the most projects (9 in Fig. 3) – historically, this is due to the 8-year experience of implementing Industry 4.0 projects by APPAU, one of UCA's co-founders. Most of these strategic initiatives have already been implemented as pilot projects, and within the entire UCA portfolio, the goal is to scale or expand them to national or international levels. Among the most interesting and cooperation-ready projects and initiatives worth noting are:

Integration and cooperation with the EDIHs network

Ukrainian clusters are closely integrated into the Ukrainian network of 12 **European Digital Innovation Hubs (EDIHs)**. The main role of EDIHs is to accelerate the digital transition of SMEs by providing a complex of services for educating SMEs, networking them with innovators, prototyping, and innovation fundraising. Given that some clusters have long been involved in similar activities, and the universities that are the main providers of these services are members of the clusters, the partnership and entry of clusters into EDIH consortia are natural and necessary elements. At the end of 2025, the main participants in the EDIHs network are the following organizations:

- **UCA** leads **EDIH KyivHitech** and will involve several clusters from the Kyiv region in the work.
- **Kharkiv IT Cluster** is the implementation coordinator of the **Eastern Ukrainian EDIH**.
- **Lviv IT Cluster** leads **LEAP EDIH**.
- The **Ukrainian Mobility and Automotive Cluster** is part of the **Central European EDIH**.
- The **Podilskyi Fashion Cluster** is part of the **EDIH Clotex** consortium.
- The **Zaporizhzhia IAM Cluster** is a participant in **ZP EDIH**.

4 of the specified EDIHs - Eastern European, Central European, LEAP EDIH, and EDIH Clotex - have already received funding. The other 2 are awaiting the European Commission's decision in January 2026. All Ukrainian EDIHs demonstrate a high level of readiness for cooperation with foreign clusters and EDIHs.

Creation of a network of shared-use prototyping centers

This is another strategic and long-overdue project with a large market demand. The idea of such centers is to create laboratories and testbeds with the appropriate infrastructure for conducting innovative experiments, prototyping, and testing prototypes of innovative products and solutions. Such centers, provided they are shared, could significantly

accelerate development times and reduce their cost for hundreds of Ukrainian developers. The first such centers are appearing at technical universities in Kyiv, Vinnytsia, Lviv, and Dnipro. UCA proposes a concept where such centers will be maximally unified, brought to single efficiency standards, and integrated into EDIH / DIH structures, making maximum use of the experience already gained by EU countries.



AMPER fair in Brno, march 2025

ESG Cluster Hub

This is a digital platform for implementing effective green transition strategies by clusters and eco-industrial parks. The platform provides numerous SMEs with access to new products, at affordable green certificates, and thus helps them obtain new green financing opportunities. The platform is based on Data space and blockchain technologies and meets the criteria of Manufacturing-X platforms. The need for green and sustainable certification in Ukraine is growing rapidly, as it is a requirement for all EU producers, and a number of Ukrainian exporters have already faced this.

INTERNATIONALIZATION

The direction of international cooperation has been and remains in the top 3 priorities of UCA since its creation. Over 3 years, UCA clusters have participated in dozens of international events, signed memorandums with 20+ countries, and dozens of new consortia are in discussion. Among UCA's key projects in this area:

Clusters4Health - ProMedVyr Cluster, Rivne Interregional Medical Cluster - together with Romanian, Polish, Spanish, Italian, and Norwegian medical clusters are working together to strengthen existing medical clusters and launch new ones, research value chains in 4 different directions - medical services, medical devices, pharma, exchange of experience in cluster management, development of partnerships and joint projects. They support startups from Ukraine and facilitate their entry into European markets, participation in European acceleration programs. They are creating the EU-UA Cluster Acceleration Lab, a joint Europe-Ukraine roadmap for a sustainable and smart health ecosystem.

Professionals4Ukraine – a program to develop a network of ambassadors from professionals in various business communities (not just clusters) ready to help Ukrainian clusters and their members during the war. This is, in fact, a new internationalization mechanism for UCA clusters, which UCA ranks as 1st in terms of its effectiveness. The program was created in June 2022 and today includes about 30 professionals from 17 countries. Ambassadors of the Professionals4Ukraine network help UCA in various ways – by including them in international conferences and exhibitions, inviting them to consortia in European programs, direct sponsorship, organizing business missions to EU countries, consultations, and mentoring. From February 2024 to October 2024, the program was supported by the ClusterINT project, funded by the "Renaissance" Foundation. The program needs further donor support.

Organization of business missions and study tours – another priority project in the internationalization of Ukrainian clusters. Such missions in 2022-23 were supported by projects from GIZ-Ukraine, the Czech and Polish governments and partners, and proved to be one of the most effective methods for Ukrainian clusters. UCA also implements business missions and study tours for foreign partners to Ukraine.



TechBBQ, August, Copenhagen. Rivne Interregional Medical Cluster among the winners of EIT Red Kalyna 2024

Reskilling – Upskilling

As the personnel crisis deepens, UCA is increasingly focusing on developing its own proposals and projects. Among the top initiatives being considered:

- **Industry Re_Up school** – a project to unify, standardize, and scale the best practices already accumulated by UCA clusters to other regions and industries. In particular, this refers to developments like preparing their own industry schools for training operators and technical personnel of SMEs – where there is already significant experience in the Kharkiv IT Cluster, UAM, Podilskyi Fashion Cluster, Rivne RMC (TacMed), and the Maritime Cluster of Ukraine. There is also great experience in Kyiv DIHs and in APPAU. Another example is the **Kharkiv IT Cluster**, which managed to create the largest IT education network in Europe, uniting over 240 partners and 60 universities in 20 regions of Ukraine. This educational ecosystem covers all levels—schoolchildren, students, university lecturers, junior specialists. In total, the portfolio has over 40 educational ecosystem projects. The project involves developing unified methodologies and testing them in 3 new industry sectors.

- **Training platform online** – similar to the previous one, this project involves the creation of online platforms and the use of digital tools and technologies (like AR / VR) in the fields of medicine and engineering.



Hackathon in Kharkiv - "Creation of an underground industrial park", October 2025

Cluster Development

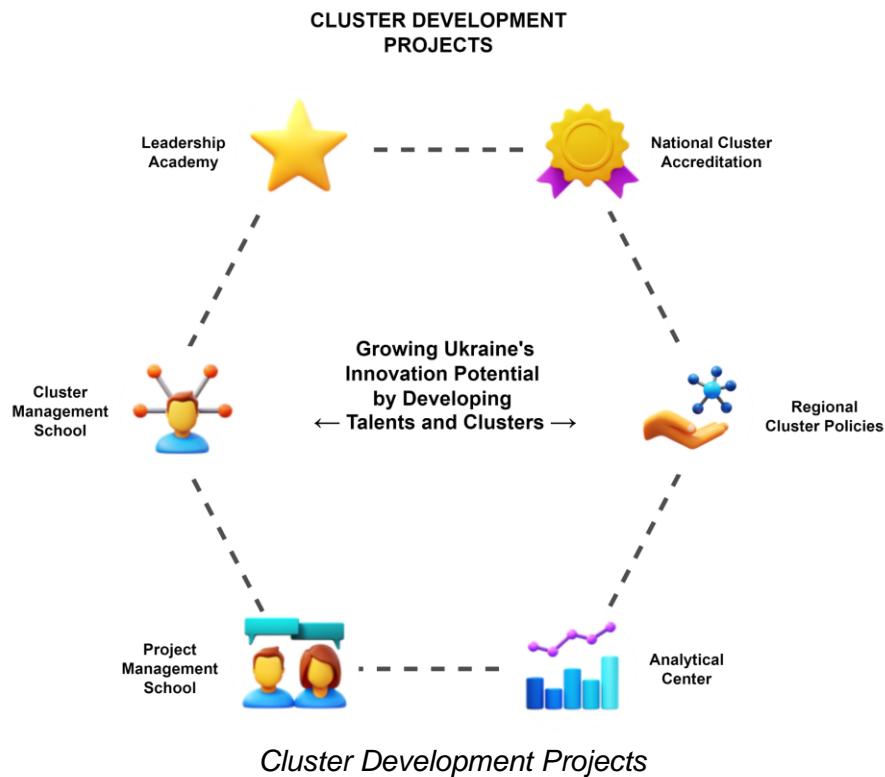
The projects presented in this program are aimed at improving the organizational capacities of clusters, increasing the level of cluster management and leadership. All projects can be conditionally divided into 2 directions - **Development of Talents in Clusters** and **Development of Cluster Organizations**. Below are brief descriptions of the 6 most priority ones:

- **Cluster Management School** – new clusters and cluster initiatives are constantly emerging in Ukraine, so there is an acute need for a permanently functioning school for cluster coordinators. In the future, it is planned to build training programs in accordance with the criteria of national and European cluster accreditation.
- **Cluster Accreditation** – within the framework of cooperation with the Ministry of Economy, UCA is preparing a cluster accreditation system in accordance with

European standards for cluster management quality, as well as compliance with national policy (in development).

- **Analytical Center** – a network of analyst and expert teams whose main areas of work are - analysis of markets and VCs by sectors and industries, analysis of opportunities and threats for clusters when integrating into European VCs, as well as evaluating the effectiveness of national and regional cluster development programs.

The list of all cluster development projects is shown in Fig. 2.



Shaping a Resilient Future Together

The UCA resilience model is based on strong clusters as tools for prevention and rapid response to crises, recovery, innovation, and European integration.

The UCA strategy involves the gradual implementation of the above programs and the growth of the cluster network in both quantity and quality. By 2030, we plan to develop the Ukrainian network to 40 mature clusters (80+ participants), where at least 10 will be certified at the ESCA level.

UCA calls on Ukrainian and foreign partners to join common projects and initiatives, invest in the resilience of chains and ecosystems, and together strengthen the capabilities of clusters as transformational platforms.

Together we are shaping a resilient future for Ukraine and our Euro-Atlantic partners.



Clusters You Can Meet in Warsaw at the UCA Stand

- **Thermal Energy Cluster of Ukraine** +38 067 792 55 55 tcu.cluster@gmail.com <https://tcu.org.ua/>
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