

***STAGES OF FORMATION AND
DEVELOPMENT
OF THE ECONOMY OF INDEPENDENT
UKRAINE***

Monograph

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Запобігання екологічним катастрофам та покращення екологічної ситуації в регіоні (стратегічний індикатор за напрямом – рівень капітальних інвестицій на охорону навколишнього природного середовища, % до ВРП (валового регіонального продукту), дані про якість води та атмосферного повітря – після запуску систем екологічного моніторингу).

Аналізуючи окремо кожне з перелічених завдань можна побачити, вони складаються з багатьох конструктивних ініціатив і базуються на вирішенні проблемних сторін регіону, а також на врахуванні найбільш сприятливих факторів. В свою чергу ініціативи враховують територіальний принцип, логістичну інфраструктуру характерні особливості громад, що знаходяться на підконтрольній території донецької та Луганської областей, та територій, прилеглих до лінії розмежування. Окремої уваги заслуговує застосування механізму індустріальних парків на окремій території, або ж всієї території Донецької та Луганської областей.

З цією метою на державному і регіональному рівнях потрібно розробити і застосовувати комплекс заходів, які б сприяли позитивному економічному іміджу регіону, створювали сприятливий бізнес-клімат для формування кластерної моделі, як пріоритет стратегій смарт спеціалізацій бізнес структур соходу України.

Отже, створення кластерів сприятиме зростанню продуктивності та інноваційній активності підприємств, які входять до їх складу, а також підвищенню інтенсивності розвитку малого і середнього підприємництва, активізації залучення інвестицій, забезпеченню прискореного соціально-економічного розвитку регіону, що в остаточному підсумку дозволить збільшити кількість робочих місць, заробітну плату, надходження до бюджетів усіх рівнів, стійкість і конкурентоспроможність економіки регіонів.

3.10 Smart Specialization and Cluster Interaction in the System of Strategic Management of the Regional Economy's Innovative Development

Fierce competition and turbulent changes in the world against the background of the growing consequences of the COVID-19 pandemic pose significant challenges not only to the authorities of different countries, but also to management at certain local levels. In such conditions, the main driving force of the dynamic development of social production is innovation. They play a crucial role in the economic growth and development of economic systems of developed countries.

Stable economic growth is carried out on an innovative basis with the active use of modern scientific and technological advances, the ability to produce and commercialize innovations. A high level of production and implementation of innovations is ensured in modern conditions with high productivity and interaction of various market actors, forming a coordinated innovation system for all elements.

The stability of the development of national social and economic systems in the conditions of modern transformations and innovative changes is increasingly

determined by the level of development of the regions. The role of regional government in the general system of state regulation in Ukraine is growing. The regional administration acts as a leader of national interests, taking into account regional specifics and has all the necessary powers in the economic, financial and legal spheres, able to solve all the problems of life support of the population in the regions. As the regions acquire real independence, a new regional sphere of interests and responsibilities is formed. The most significant regional interests include: compliance of the level and way of life of the population of the region with state and international standards; availability of budgetary and financial and other material sources; potential for the use of available real resources, places of application of labour, intelligence, etc.; availability of infrastructure for the development of interregional relations; natural resource and ecological potential of the region; stability of the social and political, national and ethnic situation, preservation of tolerance in the religious environment. In addition to these interests, a special place also belongs to the prevention of crises in the economy of the region, which is an integral part of a market economy.

In the period of post-crisis recovery and intensification of competition on the world market to increase the competitiveness of regions in the EU in 2010, the development and implementation of a new tool for market economy development – smart specialization was initiated. The spread of the concept of “smart specialization” was associated with the need to “unlock” the development of regions, revive their potential and industrial modernization of Europe.

The concept of smart specialization, which was developed by economists D. Foray, P. David and B. Hall¹ and proposed to the European Commission in 2008, was recognized as one of the key tools for implementing the Europe 2020 strategy. The official EU regulation states that “smart specialization strategy means a national or regional innovation strategy that sets priorities for competitive advantage by developing and adapting its own research and innovation capacity to business needs in order to consistently respond to new opportunities and market changes, while avoiding duplication and fragmentation of efforts”². In addition, it is noted that a smart specialization strategy may take the form of or be part of national or regional policy.

In a study³, the authors substantiated the main reasons for the large gap between economic growth in the United States and Europe: the quality of human capital; brutality of European labour markets; differences in adaptation and adoption of new management practices; differences in the organization of the

¹Foray D., David P. A., Hall B. H. Smart specialization: from academic idea to political instrument, the surprising career of a concept and the difficulties involved in its implementation. MTEI Working Paper. Lausanne, Switzerland, 2011. 16 p.

²Regulation (EU) No 1303/2013 of the European Parliament and of the Council. <https://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX%3A32013R1303>.

³Foray D., David P. A., Hall B. H. Smart specialization: from academic idea to political instrument, the surprising career of a concept and the difficulties involved in its implementation. MTEI Working Paper. Lausanne, Switzerland, 2011. 16 p.

investment process and the availability of venture capital. This Concept became the basis for defining nationally oriented directions of development and formation of innovative strategies at the level of regions for overcoming the problem of their uneven development in the conditions of globalization challenges and for the purpose of achievement of steady, reasonable and inclusive growth. First of all, the main idea of smart specialization was the division of regions according to the level of innovative development: if advanced innovation regions specialize in research, development and implementation of new technologies, the mission of more innovative backward regions should be to promote such technologies by local entrepreneurs. EU member states have traditionally differed in their innovative regional strategies from other countries. Their strategies have always included horizontal measures of industrial policy, which adhered to a neutral position in terms of sector and industry and was aimed at improving the general environment and creating opportunities for innovative development (development of higher education institutions, human resources, creation of intellectual property, IT infrastructure) and increasing the volume and efficiency of scientific and research activities, etc.).

In recent years, the key factors in the development of their strategies have changed somewhat – the usual strategy of regional development has changed to a new one, which retains tradition in horizontal measures, but adds something new – logic and reason, which are combined in the concept of “smart specialization”.

The new paradigm of regional policy with a certain smart specialization, which is recognized as a policy that goes ahead of the theory, is locally oriented, multilevel, innovative and focused on different types of regions¹. This innovative EU regional capacity building tool is becoming more widespread due to two key approaches: taking into account local conditions and the knowledge economy, which involves identifying the region's competitive advantages and assets, using its innovation and scientific potential, effective cooperation and synergies between local authorities, business and academic environment, and civil society.

Smart specialization is used in developed countries as a conceptual model for the formation of not only innovation (identifying and stimulating the development of unique industries or economic activities), but also social and economic policy in general, as it promotes long-term structural changes in the region's economy with a focus on the prospect of occupying important niches in foreign markets.

Smart specialization is an integrated, local transformation program based on four general principles²:

- selection and critical mass (limited number of priorities identified taking into account regional capacity and international cooperation);
- competitive advantage (the process of entrepreneurial discovery);

¹Vanthillo T. Paradigm change in regional policy: Towards smart specialisation? Lessons from Flanders (Belgium). *Belgeo*. 2012. № 1–2.

²Guide to Research and Innovation Strategies for Smart Specialisation (RIS 3). 2012. 116 p. <https://s3platform.jrc.ec.europa.eu/documents/20182/84453/RIS3+Guide.pdf/fceb8c58-73a9-4863-8107-752aef77e7b4>. P. 17.

– relationship and clusters (synchronize what you have with what the rest of the world has)

– joint management (public and private partnership, model of four spirals (quadruple helix model))

The smart specialization strategy is an important basis for sustainable growth, as it facilitates the transition to a resource-saving economy and creates competitive advantages in domestic and foreign markets. It is aimed at structural changes provided by new and better jobs, social innovations. Smart specialization makes it possible to identify and make full use of regional potential for structural and technological change, as well as industrial modernization on an innovative basis. Therefore, the study of smart specialization as a key component of the region's development, increasing its competitiveness and innovation is urgent in modern conditions and for Ukraine in the context of decentralization reform.

The essence of this “smart” system, which was primarily designed to stimulate economic development, enhance the ability of regions to operate and compete in important world markets with a view to the future has caused some difficulty in domestic perception, understanding its advantages and possibilities of application as an important innovative tool of regional policy in Ukraine.

In Ukraine, at the legislative level, smart specialization is defined as “an approach that provides a reasoned definition of regional development actors in the regional strategy of certain strategic goals and objectives for the development of economic activities that have innovative potential taking into account the competitive advantages of the region and contribute to the transformation of economic sectors into more efficient ones”¹.

The study of approaches to the definition of smart specialization allows us to identify several of its main characteristics. Smart specialization is a new tool for strengthening the community and improving the region's economy through the efficient use of human resources and other resources and the implementation of innovation policies with public involvement in decision-making². It takes into account the competitive advantages of the region and promotes the transformation of economic sectors into more efficient ones, provides a reasoned definition of strategic goals and objectives for the development of such economic activities that have innovative potential³.

Smart specialization allows to identify the best aspects of the region and is

¹Resolution of the Cabinet of Ministers of Ukraine “On the order of developing regional strategies and action plans for their implementation, and monitoring and evaluation of the implementation of these regional strategies and action plans” dated November 11, 2015, No. 932.<https://zakon.rada.gov.ua/laws/show/932-2015-%D0%BF#Text>

²Zubko H. Smart specialization is the future of regional development. The only web-portal of the executive authorities of Ukraine.<https://www.kmu.gov.ua/news/za-smart-specializaciyeyu-majbutnye-rozvitku-regioniv-gennadij-zubko-na-forumi-yes>

³Implementation of the European Union's approach to regional development on smart specialization. Resource Centre for Sustainable Local Development. <https://rozvytok.in.ua/4247-vprovadzhenia-pidkhotu-yevropeiskoho-soiuzu-do-rehionalnoho-rozvytku-shchodo-smart-specializatsii-3>

based on innovation, and its purpose is to form regional development strategies, goals and objectives for the formation and improvement of the economic sphere, which is based on the integration of competitive and innovative potential of education, science and real business in connection with the public sphere¹.

Thus, smart specialization is based on available resources, innovative potential and a certain uniqueness to their development, which allows you to create an unusual product, service or technology that increases the likelihood of the region entering the foreign (or interregional) market. That is, it allows the most profitable use of the potential of regions (states) on the basis of trust, communication and cooperation between regional stakeholders, ensuring maximum interaction between education, science, business and the public.

The concept of smart-specialization develops in the conditions of aggravation of a competition when the existing structure of economy does not allow to receive optimum effects. Accordingly, the practice of constant discussions and search for compromises between the population of a certain area with innovators and researchers in the process of brainstorming and methods of finding new ideas for optimal strategic use of available resources is spreading. All this together starts the process of economic growth².

Smart-specialization is based on the synergy of education, science, business and local government, which involves all local stakeholders and government coordination of this interaction. It implements a vertical management mechanism, because first of all the most attractive areas for intervention, changes, introduction of technologies, structural changes, attraction of investment resources are identified and selected.

In recent years, the United Nations Industrial Development Organization (UNIDO), the World Bank and the OECD have been actively involved in the practical implementation of this approach in regional development. The practice of using smart specialization shows a successful combination of smart specialization strategy with the policy of clustering the economy of EU member states. Accordingly, a European platform has been set up to support the implementation of a smart specialization strategy to assist countries and their regions in developing and expertly assessing the strategy, to help regional representatives identify high value-added activities and strengthen their competitiveness.

The European experience of using smart specialization strategies has many vivid examples, where the use of smart specialization, i.e. its rational form is the result of joint coordinated work of many employees, including researchers, university staff, organizations and institutions of vocational training and business. The potential of such cooperation lies in opportunities to create new services, new companies, conduct new research and more. Such cooperation, based on the idea of

¹Experts debunked 11 myths about the introduction of smart specialization in Ukraine. Ukraine crisis media center. <http://uacrisis.org/ua/74007-smartspecializationinukraine>. P. 36-44.

²Berezina O.Yu. Smart specialization to improve the living conditions of households: European experience. *Economics and organization of management*. 2018. No. 4 (32). Pp. 35-46.

smart specialization, helps to grow by creating new connections, generating change and innovation, and spreading the processes of commercialization.

Thus, the new smart approach to identifying the unique functions and assets of each country and region has excellent results, positive feedback from experts and a very popular demand not only among European countries but also in Ukraine. The introduction of smart specialization in regional strategies involves a broad public discussion of development priorities with representatives of innovation and export-oriented business, regional development agencies, educational and research institutions, without proper strategic development of which innovation is impossible as a powerful impetus to the business environment¹.

Smart specialization is crucial in ensuring investment efficiency. The unconditional advantages of using this “smart” tool in Ukraine include its essential importance as a key component for cooperation with European countries, as a tool for further decentralization, and its innovation for the local economy is a new impetus for effective development of each territory.

Today, smart specialization has become an important area in the development of regional strategies in Ukraine in order to accelerate the development of new technologies and increase the level of competitiveness of the regional economy. However, a certain priority in practice turns into a formal fulfilment of a certain goal. Used European methodology does not allow us to fully determine the potential of science, business and the public in our reality, as statistics and individual industry reports do not record (or formally reflect) their effectiveness, the level of interaction and so on. As a result, the actual potential and level of development of all participants in regional ecosystems remains unexplored, and the chosen priorities of smart specialization are fictitious.

Such gaps, which appear today in almost every region of Ukraine, need to be addressed with the help of expert communities, full involvement in this process of various industry associations and unions, innovatively active population and business entities.

Today, smart specialization can solve a number of problems and stimulate many important areas: support for small and medium-sized businesses; improving cooperation between regional stakeholders; introduction of new forms of cooperation between different spheres of activity; increasing attention to less developed regions; development and restoration of social and economic infrastructure; increasing innovation and the level of competitiveness of regions; improving and enhancing joint work within the framework of innovative development of the state, etc.

It is the available natural and geographical resources (land, forest, water, mineral, biological, energy) and socio and economic resources (tangible, financial, human and intangible) and the close level of interaction of regional stakeholders (education, science, business, community and local authorities), which characterize

¹Pavlovskaya A.S. Economic impact of smart specialization of regions on the business environment of Ukraine. *Economics and management organization*. Issue No. 1 (37). 2020. P. 6-13.

the self-sufficiency and financial capacity of the region, its competitive economy, will develop on the basis of smart specialization in the national and global space. Smart specialization is based on mutual assistance and cooperation, mainly of small and medium-sized businesses, research centres, universities and local authorities, and does not necessarily take into account all areas of the region, namely those industries that will be the most promising in the future.

Thus, in the system of strategic management of the innovative development of the regional economy, smart specialization and cluster interaction occupy a special place (Fig. 1). The active use of these modern forms of interaction of regional stakeholders in managing the innovative development of the economy will contribute not only to an increase in the competitiveness of the region as a whole, but also to obtain a number of positive effects for various groups of market actors.

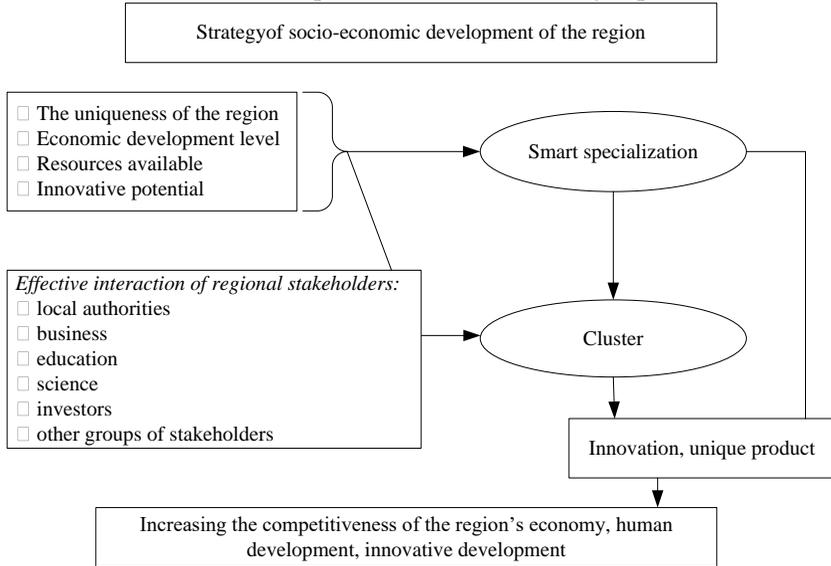


Figure 1 - Smart specialization and cluster in the system of strategic management of regions' development

The implementation in practice of the coordinated activities of various market actors for the production and commercialization of innovations has become widespread in regional innovation ecosystems around the world. In particular, it is believed that economic growth at different local levels is ensured by close production links of related various sectors and platforms, existing innovation networks that form an innovation ecosystem.

Innovation ecosystem "is a set of organizational, structural and functional components (institutions) and their relationships involved in the creation and application of scientific knowledge and technologies that determine the legal, economic, organizational and social conditions of the innovation process and

ensure the development of innovation at the level enterprises, and at the level of the region and the country in general on the principles of self-organization”¹. The innovation ecosystem is an open system with a set of institutions that must be closely linked.

The effectiveness of this system is ensured by the interaction of organizations (structures), various forms of ownership engaged in the production of scientific knowledge and technology (intellectual property objects) and their preparation for commercialization. It produces and accumulates scientific knowledge as a public good, which takes the form of intangible assets, provides conditions for formalization and scaling of processes, accumulation and use of knowledge, pricing in innovative products, maintaining the effectiveness of integration between actors of the innovation system².

The innovation ecosystem is a kind of complex of various interconnected institutions (legal, financial and social) that regulate the conditions, rules and implementation of innovation processes, promote the generation, accumulation and transformation of knowledge (ideas, business experience, investment and the community that combines them).

In the context of globalization of the world economy and exacerbation of the consequences of the COVID-19 pandemic, the positions of many economic entities in various sectors of the Ukrainian economy have significantly weakened. In addition, in the domestic economy and society in general, there is a significant confrontation between large capital owners and their supporters, which is irrational in nature. In such conditions, when the consolidation of society within national economies is widespread in developed countries, cluster movement is developing and the benefits of local areas are maximized, which confirms the practice of developing and implementing smart specialization strategies and innovation strategies, in Ukraine there are contrary trends. Even if the benefits of cooperation are proclaimed, attempts are made to cooperate – such processes are not massive, and only a few examples of effective cooperation become known.

In the local environment, these clusters are able to combine these elements and ensure the transition to smart specialization, which are becoming more widespread in the face of intensifying competition and are formed to strengthen their positions of small and medium businesses, gaining more significant advantages in the market. Clusters allow to combine and coordinate all levels of innovation policy, as they provide concentration of resources and create a favourable environment for economic breakthrough in the form of innovations, promote competitiveness at micro-, meso- and macro-levels, rapid innovative development of local areas, simplification of access for enterprises to various

¹Davymuka S. A., Fedulova L. I. Regional innovation ecosystems: directions of development in terms of European integration: a monograph. Lviv: Institute of Regional Research named after M. I. Dolishniy of the NAS of Ukraine, 2016, 464 p.

²Karpenko A. V. The Development of Intellectual Assets of Human Potential: theory and practice. FOP V. V. Mokshanov, Zaporizhzhya, 2018; ISBN 978-617-7520-52-7

resources and technologies, reduction of financial risks, etc.¹.

Clusters provide collaboration and synergy of scientists (public and private scientific and research institutions, universities, science and technology parks, science and technology exchange offices, etc.), business (manufacturing and services, primary sectors, financial sector, creative industries, social sector, corporations), SMEs, start-ups, clusters, business associations), authorities (departments and agencies at various levels of government, regional development agencies, public procurement offices, business support centres, incubators, etc.) and the public (NGOs and citizens' initiatives, consumer associations, talented and initiative youth), and their basis is a developed legal framework and discipline, the development of the institution of trust and responsibility, which is still significantly lacking in Ukraine².

The main centres of attraction for clusters are universities, research laboratories, specialized infrastructure or a reserve of skilled labour, which has a much greater effect than subsidies. The best regional policy is the one that identifies the key elements that form the basis of the power of the region's industries and increases them in order to encourage the formation of geographically concentrated clusters. When one industry creates demand of increased complexity or acts as a supplier of products and services for production purposes to others, it is more effective than trying to push a diverse and random company to locate and develop in a particular local environment.

Thus, clusters are one of the effective forms of organizing innovation processes, providing new centres of profit, technology and knowledge, competitive products, allows not only to benefit from the cooperation of its members, but also to increase competition among them and form unique competencies within individual regions or interregional links. Clusters are based on trust and responsibility between its participants, whose tolerant interaction at the intersection of science and industry contributes to the production and commercialization of innovations. That is, clusters provide territorial integration of scientific and educational institutions with a network of producers and consumers, which forms an innovative ecosystem. The formation of clusters contributes to: the development of small and medium-sized businesses; increasing the level of employment and attracting qualified staff (return of migrant workers to the country); development of scientific support of the country; increasing revenues to the state budget, etc., and accordingly provides positive changes in the economy and makes it more attractive for investment.

World practice shows that when a cluster is formed, all industries in it begin to provide mutual support to each other. Competitive suppliers contribute to the

¹Karpenko A. V. The Development of Intellectual Assets of Human Potential: theory and practice. FOP V. V. Mokshanov, Zaporizhzhya, 2018; ISBN 978-617-7520-52-7. P. 14.

²Karpenko A.V., Karpenko N.M. Clusters as a form of innovative development of the region. *Entrepreneurship in the agricultural sector: global challenges and effective management: materials of the II International scientific and practical conference* (February 9-11, 2021) for general edited by L.M. Bukharina. Zaporizhzhia: ZNU, 2021. P. 204-207.

development of consumer industries in the country. They provide them with technologies, stimulate the development of general factors of production and generate new producers. One industry that is competitive in the world market is able to create a number of new related ones, providing access to skilled labour, using family diversification or encouraging the emergence of new ones through separation. The benefits are manifested in all areas of communication, and active competition in one area extends to other areas of the cluster. New manufacturers coming from other industries of the cluster accelerate development, stimulating different approaches to the development of innovation and R&D and providing the necessary tools for the implementation of new strategies, training of employees. There is a free exchange of information and rapid spread of innovations through the channels of suppliers and consumers, completely new opportunities are created.

The well-known practice of creating clusters in the economy of Ukraine to date is not characterized by significant positive manifestations, as there are no long-term stable formations, with a few exceptions. In particular, back in 2010 it was noted about the creation of clusters in the Zaporizhzhia region (innovation cluster in the field of agricultural engineering, potential metallurgical cluster, transport and logistics cluster, etc.), however, over time, these initiatives have been forgotten.

Today, in the context of digitalization processes and the transition to the formation of smart specializations in regional development strategies, a significant emphasis is once again placed on the cluster movement. Particularly tangible are cluster initiatives that are formed “from below” with a conscious understanding of the benefits of cooperation.

In particular, in September 2020, at the initiative of a number of enterprises and organizations of Zaporizhzhia in accordance with the signed Memorandum of Cooperation between the Association of Industrial Automation Enterprises of Ukraine (AIAEU) and Zaporizhzhia Chamber of Commerce and Industry (ZCCI) with the participation of National University “Zaporizhzhia Polytechnic” creation of a professional association of entrepreneurs, scientists and business associations was launched. In November, with the support of AIAEU and the German federal company Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, “Zaporizhzhya Cluster “Engineering-Automation-Machinery” was registered at the request of the German Government for the development of industrial high-tech clusters.

Today Zaporizhzhia cluster “Engineering-Automation-Machinery” has united and continues to attract to its ranks the leading players of Zaporizhzhia region in the sectors of industrial engineering, automation, IT and mechanical engineering to increase the economic potential of Zaporizhzhia region through the competitiveness of cluster participants and development of regional innovative technologies (Fig. 2).



Figure 2 – Members Zaporizhzhia Cluster “Engineering-Automation-Machinery”

The basis of the cluster formation is the harmonization, coordination and synchronization of cooperation of participants around: definition of common goals and needs; building trust through networking and regular communications; launching a specific action plan. The main tasks of the Zaporizhzhia Cluster “Engineering-Automation-Machinery” are: establishing broad cooperation between all categories of cluster participants and creating a common innovation ecosystem in the region to develop innovation and R&D, development of new generation products (Industry 4.0), as well as joint implementation of engineering projects; increasing competitiveness and export potential through better and joint implementation of existing export support instruments, creation of new opportunities and integration into international chains of high added value; joint solution of a complex of problematic issues of the region in the field of industry and high-tech in terms of strengthening and retaining staff within the region, increasing skills and qualifications, attracting investment and creating new jobs; better cooperation and synergy with regional authorities and local governments, expert communities and the public, integration into regional development programs (Fig. 3)¹.

The main advantages of participation in the Zaporizhzhia cluster “Engineering-Automation-Machinery”: the use of joint assets of the cluster (site, joint funds, joint promotion, joint stands at exhibitions, etc.); obtaining important information about market opportunities within or outside the region; image and reputation growth, joint and individual PR; obtaining a synergistic effect of cooperation in the development of joint products or projects; better access to innovation and export resources and opportunities, including finding partners and clients abroad; obtaining preferential terms for training and development programs organized by partners; priority inclusion in grant and other structural programs of export,

¹Yurchak O. A new project for the development of clusters “Engineering-Automation-Machinery” in the regions of Zaporizhzhia and Kharkiv. <https://appau.org.ua/clusterise>

innovation, regional, industrial and digital development, etc. (Fig. 4).

Zaporizhzhia cluster EAM
(Engineering, Automation, Machinery)

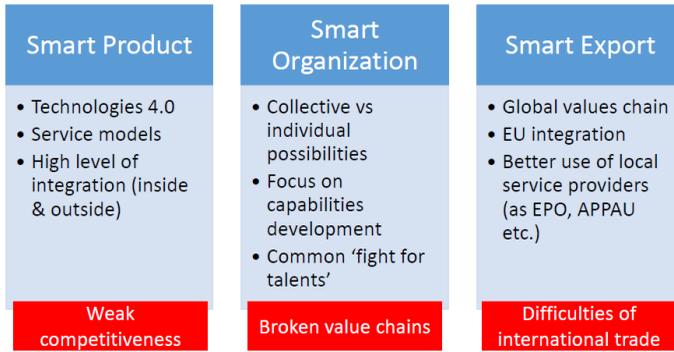


Figure 3 – Smart specialization of Zaporizhzhia cluster “Engineering-Automation-Machinery”

The benefits of participating in Zaporizhzhia cluster EAM :

- DEVELOPMENT AND USE OF COMMON CLUSTER ASSETS
- EXPANSION OF EXPORTS AND INTERNATIONALIZATION
- FUNDRAISING

www.facebook.com/groups/clusteriamzaporizhzhia



www.iamcluster.zp.ua www.cluster.zp.ua



Figure 4 – Main advantages of Zaporizhzhia

The development of the Zaporizhzhia cluster “Engineering-Automation-Machinery” and clustering processes in general in Ukraine involves the formation and implementation of a set of measures: partial funding of analytical studies of the cluster structure, definition of goals and directions of its development; creation of regional centres for knowledge exchange in clusters, involvement of interested organizations in joint actions within the cluster; implementation of programs to facilitate the entry of cluster enterprises into foreign markets, conducting joint marketing research; increasing the effectiveness of professional training programs, including by adjusting the curricula of vocational education institutions, business cooperation with multi-corporate universities; promoting the commercialization of

research results¹.

Thus, the basis for the formation and effective functioning of the cluster is trust and responsibility between its members, tolerance and solidarity in society, which in the monopolization of many markets low level of business ethics and low legal culture for a long time does not allow to fully using the potential of the national economy.

Territorial integration of scientific and educational institutions with a network of specialized suppliers, major producers and consumers connected by a technological chain, for faster and more efficient dissemination of innovations (new knowledge, discoveries and inventions) in a certain economic subsystem supported by public administration and the public to ensure the progressive development of the region. Conscious creation of clusters by all participants in economic relations will allow to make full use of all available potential and to provide realization of their competitive advantages.

Summarizing the above, it should be noted that smart specialization is a new model of regional and interregional development, which provides a close link between science, education, business (mostly small and medium), public and local authorities on the optimal use of available resources and creation innovative products, services or technologies competitive in the scale of the national or world economy with the use of cluster cooperation of innovation ecosystems.

3.11 Цифровізація об'єктів нерухомого майна підприємства: інвентаризація, облік, формування єдиної бази даних та системи управління

Економіка та управління бізнес – процесами у цифровому світі, в умовах побудови інформаційного суспільства, це переосмислення традиційних підходів до роботи в середині компанії, з клієнтами, створення унікального досвіду нового погляду на партнерство і конкуренцію, і, безумовно, формує нові моделі і підходи в їх операційній моделі. На даному етапі всі компанії, під впливом нових цифрових технологій стоять на порозі масштабних перетворень, тому що зараз відбуваються багатомірні зміни як на глобальному рівні, так і на рівні країн, індустрій, компаній, корпорацій і самих людей. Організації змінюються як зовні, так і внутрішньо. На це необхідно звернути особливу увагу тому що, саме зовнішня трансформація має на увазі нову концепцію по роботі з клієнтами, партнерами, контрагентами і зміну в компанії системи планування, обліку, менеджменту та маркетингу. Уже зараз недостатньо відповідати очікуванням клієнта. Очікування клієнта потрібно вміти передбачати, а їх вимоги з кожним днем ростуть. Численні опитування топ-менеджерів підприємств по всьому світу

¹Karpenko A. V. The role of clustering in the formation of innovative development of Ukraine. Problems of development modern science: theory and practice: Collection of scientific articles. EDEX, Madrid, Espana. 2016. P. 46-50.

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