INNOVATION PARKS AS A DIRECTION OF REBUILDING OF UKRAINE'S ECONOMY IN GLOBAL AREA

The article investigates the essence and main factors of influence on the innovation activity of business entities, identifies the main means of its implementation. The problems of creation and functioning of technology parks in Ukraine are considered. The main transformational vectors of the state mechanism for managing investment processes in Ukraine are highlighted. The innovative direction of development in the field of technology parks and their investment support is one of the strategically important tasks for Ukraine today. The development of innovative infrastructure and the creation of technology parks will open up opportunities for Ukraine to restore its economic potential, ensure economic security and build sustainable competitive advantages in the international arena. Ukraine currently has tax incentives and government support for business entities to increase investment in innovation parks. The post-war reconstruction of Ukraine will largely depend on its innovative vector of economic development, including through the use of technology parks, which can be attractive to both domestic and foreign investors. Many European countries using the innovative development path have chosen technology parks as one of the tools for such development and have achieved significant success in economic and social development. The main purpose of creating and operating innovation parks is to attract investment, create additional jobs, and increase
Restoring Ukraine’s economy in the postwar period is an urgent need. One of the ways to solve this problem may be to use technology parks, which will help accelerate the development and implementation of modern scientific research results. Many European countries using the innovative path of development have chosen technology parks as one of the tools for such development and have achieved significant success in economic and social development. There is no alternative way to solve the problems of economic recovery in Ukraine other than through the use of the innovation vector. The innovative direction of development in the field of technology parks and their investment support is one of the strategically important tasks for Ukraine today. It is the introduction of innovations, the development of innovative infrastructure, and the creation of technology parks that will enable Ukraine to restore its economic potential, ensure its economic security, and build sustainable competitive advantages in the international arena.

ANALYSIS OF RECENT RESEARCH AND PUBLICATIONS.

The issue of innovative economic development with the use of technology parks is actively discussed by many scientists in their works. In particular, the study by Dr. Anna Nikina and Joseph M. Piquet "Innovation Spheres in the Global World: Concept and Practice" [1] examines the current demand for innovation spheres, identifies key trends and explores synergies with the concept of science and technology parks.

Key words: innovation, innovation process, innovation activity, innovation parks, technology parks, development.

Ключові слова: інновації, інноваційний процес, інноваційна діяльність, інноваційні парки, технопарки, розвиток.
The study of Latin American science and technology parks and innovation areas, their development strategy, regional influence, challenges and opportunities is devoted to the study of Latin American science and technology parks and innovation zones [2].

A characterization of different models and strategies used for STP management, which can have valuable practical implications, allowing science park managers to better understand their own model, compare it with others, or decide whether to make changes and improvements in this regard, is provided in the work of David Rowe (Warwick Enterprise, UK) [3].

The monograph, edited by S.V. Hlibko, is devoted to the study of theoretical and practical problems of ensuring the effectiveness of the innovation process, in particular, consideration of topical issues of attracting investment in industry by stimulating the creation of industrial parks as subjects of the innovation process and technology transfer in Ukraine. The monograph provides a conceptual analysis of the issues of defining the essence, forms and stages of technology transfer in the legal regulation of the innovation process in Ukraine, considers the legal aspects of forming criteria for the effectiveness of innovation activities and the problems of assessing Ukraine's technological competitiveness in the context of association with the EU [4].

The article of Kovalenko O. V. [5] is devoted to the study and generalization of the essence of technology parks as one of the main forms of innovative infrastructure formations. The author substantiates that technology parks are one of the most important components of the innovation infrastructure that combines scientific achievements and production and gives impetus to further economic development. The author provides a classification of technology parks, which allows determining the place and role of each type of technology park in the innovation infrastructure, defining goals and objectives, functions, as well as determining the limits of regulatory influence in relation to a particular type of technology park, and improving the mechanisms of their functioning depending on the chosen model and type.

Svitlana Kushnir's article [6] examines the dynamics of innovation-active business development in Ukraine, summarizes data on projects of existing technology parks and planned industrial, scientific, and eco-technology parks with the prospect of benefiting from their effective functioning in Ukraine. Particular attention is paid to a detailed description of interesting investment projects for 2020—2022 and a study of their investment attractiveness in the context of the current war.

The article by O. Plakhoninik [7] is devoted to the study of the role and importance of industrial parks as a tool for creating a knowledge-intensive sector of the Ukrainian economy, its restructuring and diversification. Using theoretical developments in the field of management of innovation processes, Technopark structures, as well as a systematic approach, the author proposes the concept of formation and functioning of industrial parks.

The article by Oleksenko L. V. [8] analyzes the production and technological facilities of the innovation infrastructure of the national innovation system. The author classifies the objects of innovation infrastructure by grouping them into three subsystems. The practice of creation and functioning of Ukrainian technology parks is studied, the functions of technology park management bodies are presented. The directions of activity of science parks are considered. The problems faced by industrial parks in the field of their creation and functioning are identified.

However, the issues of investment attractiveness of technology parks, especially in the realities of today's war in Ukraine, sources of their financing and areas of activity intensification have certain distinctive features and require a change in the mechanism for managing these processes.

**FORMULATION OF THE GOALS OF THE ARTICLE**

The purpose of the study is to determine the prerequisites for the effective operation of technology parks in Ukraine, the means of ensuring it based on a study of the current state, identifying sources of recovery in the current conditions of the country's economy and analyzing government initiatives to support the creation and development of technology parks.

**PRESENTATION OF THE MAIN MATERIAL OF THE STUDY**

Ukraine's post-war reconstruction will largely depend on its innovative vector of economic development, including through the use of technology parks, which can be attractive to both domestic and foreign investors. The main purpose of creating and operating innovation parks is to attract investment, create additional jobs, and increase budget revenues. By concentrating scientific, production and financial resources, technology parks ensure the reproduction of the full life cycle of innovations: research — development — implementation — mass industrial production of high-tech products that are competitive in global markets. In recent years, both in Ukraine and around the world, technology parks or territorial production research complexes have become the most effective organizational and economic form of integrating science and production among other innovation structures.

Technology parks are a kind of catalyst that facilitate the formation of a knowledge-intensive industry sector, and the development of industry as a locomotive sector of the economy is an urgent need for Ukraine. For countries with economies in transition, the development of technology parks has become the basis of an innovative mechanism that combines the generation of scientific ideas, applied research, and the implementation of scientific results in production into a single stream. This will help to stimulate investment activity and a mechanism for the effective use of scientific, technical, production and human resources, and can become a means of strategic economic transformation. Technology parks are the largest-scale innovation centers that provide the most favorable conditions for the development and implementation of scientific and technological innovation projects carried out by joint efforts of research centers and industry.

According to the definition provided by the International Association of Science Parks and Areas of
Innovation, technology parks are "an organization managed by specialized professionals whose primary purpose is to increase the well-being of its community by promoting a culture of innovation and enhancing the competitiveness of related businesses and knowledge-based institutions. To achieve these goals, a science park stimulates and manages the flow of knowledge and technology between universities, research institutions, companies and markets; promotes the creation and growth of innovative companies through incubation and spin-off processes; and provides other value-added services along with high-quality facilities and equipment" [9].

Today, there are many examples of developed technology parks in the European Union. The key areas of their research are medical and pharmaceutical research, green technologies, and digital technologies [10].

According to the Polish Investment and Trade Agency, there are 78 industrial and technology parks in Poland [11]. The parks differ in infrastructure and character, which is determined by the cultural and economic conditions of a particular region. Technology parks serve many purposes, including offering space and guidance for the development of technologically advanced companies, attracting investment, creating jobs, supporting entrepreneurship, conducting technology transfer, transforming research and development results into technological innovations, or creating favorable business conditions. Some science and technology parks specialize in narrow industries, often as a result of regional industry traditions or the proximity of universities. Examples of such parks are, among others, "MMC Brainville" in Malopolska, which specializes in ICT, "Krakow Life Science Park", which focuses on the life sciences industry, "Podkarpackie Science and Technology Park Aeropolis", which specializes in aviation, "Ecopark Technology and Industrial Park" in Piekary Slaskie, which is related to the regeneration of abandoned areas, or "Bionanopark" in Lodz. Depending on their specialization, technology parks can offer high-end laboratories and workshops equipped with specialized equipment and IT facilities such as data centers. For example, the "Krakow Life Science Park" has a Clinical Research Center and specialized laboratories, such as the Tissue and Cell Laboratory or the Microbiology Laboratory. The "Aeropolis Science and Industry Park" has laboratories necessary for the aviation industry, such as the Aeropolis Materials Laboratory [11].

Industrial parks are key elements of the infrastructure supporting the development of the modern global knowledge economy. They create environments that foster collaboration, innovation and entrepreneurship, and provide innovative services to support new technology firms in their operations.

There are several types of technology parks. The most common are university technology parks, which are established on the basis of higher education institutions or are formed between universities and enterprises — the so-called strategic partnership, which is a mutually beneficial form of cooperation. The main objectives of such technology parks are to stimulate the research activities of university professors and staff, commercialize existing scientific developments, and apply the university’s scientific potential to solve practical problems. There are also regional sectoral technology parks. They are created to develop innovative processes in a particular sector of the regional economy, as well as to ensure the import of technologies to regional enterprises. Regional sectoral technology parks are aimed at creating favorable conditions for the location and operation of small innovative companies, which, in turn, will solve the technological problems of large enterprises in the sector. The third type of technology parks is industrial-type technology parks, which are territorial associations of physical infrastructure facilities for the creation of new production facilities. The main function of an industrial-type technology park is to provide real estate services and organize logistics. The fourth type of technology parks includes innovative business incubators focused on assisting startups. These are companies that are only at the initial stage of formation, where technology parks provide them with organizational support and all the necessary material resources. The fifth and sixth types are networked technology parks and coworking centers, the number of which is growing rapidly. Networked technology parks allow redistribution of potential economic and social benefits from the technology park created by cities in the region. Since this type of technology park is located in a network structure, it provides it with significant advantages, such as: expanding the range of services provided by them, increasing opportunities, improving the value of its performance indicators, the technology park gets the opportunity to ensure its physical presence in large cities or other territories important for the development of the technology park. The development of innovation infrastructure allows to increase the innovative activity of the business sector, improve the viability of small enterprises, expand the export opportunities of small and medium-sized innovative enterprises, and create and strengthen cooperative ties, including interregional and international ones [12].

In Europe, the first technology parks emerged in the twentieth century on the basis of universities, where they were called "technology parks", which can be divided into 3 groups: the first group (before 1980) includes technology parks in Belgium, France, and the United Kingdom; the second group (after 1980) includes Finland, the Netherlands, Germany, and Sweden; the third group includes technology parks formed in the second half of the 1980s in Austria, Portugal, Spain, Denmark, Italy, and Norway. Currently, the innovation structure of Europe includes more than 1.5 thousand innovation centers, which include 260 science and technology parks [12].

Currently, industrial parks in Ukraine operate in accordance with the Law of Ukraine "On Industrial Parks" [13]. According to this law, "an industrial (industrial) park (hereinafter referred to as an industrial park) is a territory determined by the initiator of the industrial park in accordance with urban planning documentation and equipped with appropriate infrastructure, within which the participants of the industrial park may carry out economic activities in the field of processing industry, processing of industrial and/or household waste (except for waste disposal), as well as scientific and technical activities, activities in the field of information and electronic communications under the conditions determined by the Law of Ukraine "On Industrial Parks" [13]."
The relocation of enterprises during the war is the reason for the interest in industrial parks. Many enterprises relocated from the war zones and neighboring regions moved to the western and central regions of Ukraine in search of places for temporary or permanent residence. This situation has prompted many initiators and owners of industrial parks to become more active in search of opportunities to prepare sites for residents. Those parks that were under construction began to be actively completed, and design and construction work began in those parks where it was necessary. This led to a significant interest among industrial zone owners in the topic of industrial parks. Despite the martial law in Ukraine, the number of registered industrial parks has become one of the largest since 2013. As of January 1, 2023, 60 industrial parks were registered. In 2022, 14 industrial parks were created. However, only one participant in the industrial park, the Vinnytsia Cluster of Refrigeration Engineering, is engaged in economic activity. In 2022, according to the submitted reports on the functioning of the industrial parks, 116 new jobs were created, products worth UAH 271.169 million were manufactured and products worth UAH 234.367 million were exported (production and exports were carried out by only one participant of one industrial park). According to the information available to the Ministry of Economy, in 2022, participants and other IP entities attracted investments worth almost UAH 7.5 million. In general, since the beginning of the acquisition of the relevant statuses by business entities, investments have been attracted in the amount of more than UAH 460.5 million. [14]. Given the general state of preparation of industrial parks, it can be stated that the vast majority of them lack proper external infrastructure and territory arrangement. Thus, in the absence of physical facilities to accommodate participants and other entities of industrial parks, it is impossible to ensure a quick and large-scale result from their operation.

The functioning of industrial parks is limited by negative factors such as problems with land registration, a long and costly process of connecting to utility and transport networks, and lack of access to credit resources with low interest rates. Insufficient or complete absence of financing and external investment is still one of the main factors hindering the development of industrial parks. This problem has existed before, and in 2022 it became even worse due to the war. Given the lack of financial incentives from the state, private market participants have become more active. Almost all investments in this sector in 2022 were made either at the expense of private initiators’ own funds or at the expense of residents/participants themselves, borrowed funds from private management companies, or borrowed funds. Collaborations have begun to emerge actively, when the owner of industrial zones, a management company and a future park participant combine their financial capabilities and invest in the supply of communications to the park.

Separate private funds have also begun to emerge that unite investors around the idea of restoring Ukraine’s industrial potential and creating new technologically advanced enterprises that can compete in Europe and the world.

An important incentive to intensify the functioning of technology parks was the adoption of Law of Ukraine No. 2330 of 21.06.2022 "On Amendments to the Tax Code of Ukraine on Creating Favorable Conditions for the Operation of Industrial Parks in Ukraine", which aims to stimulate the development of industrial parks in Ukraine [15]. According to this document, it is envisaged: exemption from paying income tax for residents of industrial parks for 10 years, provided it is reinvested in the development of the investment project; exemption from import VAT for the import of new equipment (equipment) for own use; exemption from customs duty for equipment (for participants of industrial parks); establishment of real estate tax benefits by decision of local self-government bodies; setting the rate of land tax and rent for state and communal land in an amount lower than the land tax (by decision of local self-government bodies); exemption from payment of land tax (by decision of local self-government bodies) [15].

In the post-war period, the development of technology parks in Ukraine can become one of the key factors in ensuring sustainable economic growth of the country because

- techno parks can accumulate a significant array of innovative ideas (in this direction, the work of business incubators at universities is extremely effective);
- with the modernization of the legislative framework, namely the updating of regulations on technology parks, industrial and scientific parks, conditions for creating powerful centers of innovation will improve;
- simplification of the tax burden will contribute to the formation of economic interest in the implementation of more innovative ideas of businesses, research institutions and higher education institutions.

At the same time, the government should formulate an effective program to attract foreign investment in this area of innovation by facilitating market access for foreign investors and easing government regulation, thereby stimulating the creation of joint ventures or foreign enterprises that will conduct modern research and development in Ukraine.

CONCLUSIONS

The resumption of economic growth in Ukraine depends on the intensification of innovation processes based on the formation of investment behavior of all participants according to modern world models, in particular, the intensification of the process of creation and development of technology parks. According to the government’s long-term plans, a new paradigm for managing the country’s economic development is being formed in Ukraine, where the introduction of innovative activity of all participants is given a fundamental role. Thus, the formation of new technology parks and the effective operation of existing ones will be one of the prerequisites for ensuring economic growth in Ukraine’s economy in the postwar period.

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