

INNOVATIVE INITIATIVES OF DEVELOPMENT OF UKRAINIAN AND SOUTH KOREA INDUSTRIES IN THE PERIOD OF GLOBALIZATION CHALLENGES

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Abstract

Innovation policy is an important component of the country's economic development. The South Korean experience in the development of food industry enterprises indicates that industry enterprises are at a high scientific and technological level. According to the Global Competitiveness Index 4.0 rating of 2019, South Korea ranked 13th out of 141 countries in the world. This level has been achieved thanks to the transformations that have been taking place in science, technology and innovation since the 60s of the last century. In the context of European integration and the transition of Ukraine to new standards in the food industry, the South Korean experience in industry development is very relevant.

The information base for the study are the official materials of the State Statistics Service of Ukraine, and South Korea. As a result of the study, it was revealed that the problems of the food industry in Ukraine, in contrast to South Korea, are determined by the low level of institutionalization, attracting investments, developing innovations and providing highly qualified personnel. The substantiation of the priority areas of cooperation between Ukraine and South Korea in the food industry is carried out. Particular attention is paid to the sphere of functioning of organizational forms of innovation (clusters, industrial parks, industrial complexes, venture business, chaebols and other similar structures) in the context of modern global

ization challenges. Proposals have been developed for improving the domestic regulatory framework for the functioning of the food industry in Ukraine in the context of the integration of cooperation with South Korea. Proposals have been developed to strengthen the position of domestic food producers in foreign markets of Asia.

The most effective way to ensure conditions for increasing the development of food industry enterprises can be organizational forms of innovation, as evidenced by international experience. This will facilitate not only the exchange of experience and knowledge, but also the creation of transnational, trans-regional organizational forms of innovation (clusters, industrial parks, industrial complexes, venture business, chaebols and other similar structures).

Key words: *Innovations, Organizational forms of innovation, Chaebols, Clusters, Industrial parks, Industrial complexes, Apartment-type plants, Special economic zones.*

1. Introduction

Innovation policy is an important component of the country's economic development. The South Korean experience in the development of food industry enterprises indicates that industry enterprises are at a high sci-

entific and technological level. According to the Global competitiveness index 4.0 rating of 2019, South Korea ranked 13th out of 141 countries in the world. This level has been achieved thanks to the transformations that have been taking place in science, technology and innovation since the 60s of the last century. In the context of European integration and the transition of Ukraine to new standards in the food industry, the South Korean experience in industry development is very relevant.

The purpose of the work is to determine the investment and innovation development of enterprises in the industrial sector of the economy of Ukraine and South Korea. Recommendations of cooperation relations between Ukraine and South Korea in the direction of development of industrial sphere on innovative basis are developed.

2. Innovative initiatives of development of Ukrainian and South Korea industries in the period of globalization challenges

2.1 Features of sectoral development based on innovation in South Korea

Currently, there are many indexes that determine the level of development of the national innovation system. According to the Global competitiveness index 4.0.2019, South Korea ranked 13th out of 141 countries in 2019. The analysis of South Korea's competitiveness indicators shows that the development of the country in the ranking is hindered by: dynamics of business development (25th position), level of institutions development (26), skills (27), labor market (51), as well as the commodity market (59th position) [1].

However, despite existing factors hampering South Korea's position on the Global competitiveness index 4.0 2019, the country is in the top 20 in the world. South Korea has reached this level thanks to transformations taking place in science, technology and innovation. For 35 years of South Korea's reforms, it has been possible to create a high-value national high-tech industry and become one of the most economically advanced countries in the world (Table 1). In recent decades, the country's economy has grown by 8.6% annually. In 2017, according to the Organization for Economic Cooperation and Development, investment in research and development accounts for 4.29% of gross domestic product [2]. In order to increase the volume of investments in scientific and technological development is the application of low tax rates, and preferential lending.

South Korea adheres to the principles of an open economy in order to enhance the country's credibility in Asia and the world community. A significant role is assigned to investments. The main factor determining the state's investment strategy is the almost complete absence of

natural resources in the country. They are necessary to ensure the normal functioning of the industry. Along with high demands for energy raw materials, demand for other types of resources (wood, seafood, precious metals, and water resources) is expected to continue in the coming years. Currently, imports cover 80% of the need for industrial wood, and 70% of the need for food (excluding rice and barley).

Given the lack of land resources (in relation to the population), growth of wages in agriculture, decline in the quality of the labor force in agriculture, and opening of the domestic market, additional efforts are needed to control the situation, ensure stable and long-term food supplies, and overcome the lack of competitiveness of the national agricultural sectors. For this, active transfer of agricultural production abroad is proposed. Therefore, South Korea is trying to develop relations with neighboring states. In addition, over the past years, the Republic of Korea has led a determined and consistent struggle to attract new resources and expand its markets. Of particular interest is the African continent. Companies seek to fill African markets with products from South Korean enterprises; they promote their investments and technical projects, and conduct exploration of mineral resources and the development of new deposits. South Korea's interest in the African market is not accidental (12% of world oil reserves, 6.5% of gas, 50.3% of cobalt, 60.3% of diamonds, and 95.5% of platinum) [3].

Today, South Korea's investment in the African economy is 2,530,791,294 € a year. For example, South Korean companies operate in more than 10 African countries. Samsung is investing in South Africa, Morocco, Nigeria, Tunisia, Algeria, and Egypt. Hyundai is building a large transformer substation in South Africa. And the company "SK Energy" modernizes and conducts mining in 9 mines and quarries in six African countries. Note that POSCO Company is modernizing a coal mine in Mozambique and a quarry for the extraction of manganese ore in South Africa. To compare statistics of several countries in the economy of Ukraine attracted 170.44 thousand € investment from South Korea (as of January 1, 2020). The largest volume of investments was directed to industrial enterprises - 74.3%; professional, scientific and technical activities - 23.6%; wholesale and retail trade; and repair of motor vehicles and motorcycles - 1.7% [4].

The investment activities of Korean companies abroad are supported by Korea trade-investment promotion agency (KOTRA). This is a nonprofit government organization in South Korea established in 1962. The organization's investment promotion activities cover several aspects: investment activity support and feedback from investors on the results of the project, and subsequent servicing of investment activities.

In order to implement this function, the Office of the ombudsman for foreign investment has been established. His responsibilities include providing operational assistance in resolving controversial issues and responding to complaints from foreign investors. The office of the Ombudsman ensures the interaction of the investor with government bodies and other organizations and gives the latter recommendations on improving the investment climate based on the assessment of incoming complaints.

The Public procurement service of Korea has created and maintains an electronic public procurement system. Since 2004, all public procurement procedures (announcement of the tender, consideration of the results, conclusion of the contract, payment, delivery control, etc.) have been transferred to electronic form and carried out through the unified public procurement system - Korea ON-line E-Procurement System (KONEPS). Most public procurement transactions are available only to resident companies in the Republic of Korea. To register as a supplier, you must complete the registration procedure. In addition, all paperwork under the KONEPS system is conducted in Korean.

In some cases, when the planned purchase obviously involves the delivery of goods from abroad, foreign companies are also allowed to participate in tenders. A list of such applications is available in the English version of the Public procurement service website in the "Bid information" section with a translation into English. To participate in tenders, one must send an application for registration of the company as a supplier of the Public procurement service of the Republic of Korea, as well as an application for an electronic digital signature.

One of the conditions for registering a foreign company as a supplier is the presence of a representative in the Republic of Korea. Application forms and other documents must be filled out in Korean or accompanied by a notarized translation into Korean. After registration in the Public procurement system, foreign companies have the opportunity to participate in tenders in which foreign residents are allowed to participate.

The Republic of Korea has created several online trading sites. Export portals are supported by the following organizations: KOTRA, the Korean association of international trade, Korean corporation for trade in agriculture and fisheries, Korean small and medium business administration, regional centers for supporting small and medium-sized businesses, private companies, International trade portal, and www.utradehub.or.kr (letters of credit, customs clearance, shipment, issuance of a certificate of origin and others without visiting the relevant state authorities, banks, customs agents, logistics companies) and, of course, the portal of the Korean Association of International Trade - KITA (access to information about the volume and exports and imports in South Korea).

As we can see, in South Korea, the priority of implementing state economic policy on an innovative basis is formation of own innovative potential by creation and development of national innovation system, including functioning of innovation clusters, creation of a favorable ecosystem for doing business, and implementation of venture policy.

2.2 Development of South Korea's national innovation system

The main subjects of South Korea's national innovation system are large national companies, small and medium-sized enterprises, governmental research institutes, educational institutions and more. Dominant role in the economic development of South Korea belongs to large companies - chaebol. They are a group of self-owned, single-family businesses that are under sole administrative and financial control. The principle of hereditary transfer of power ensures the stability of their development. Activity of chaebols is shown in high-tech sectors of economy (information, technological, electronics, shipbuilding, etc.). Also worth noting is the fact that Korean companies carry out advanced research and development in the field of nanotechnology and biotechnology. These are well-known Korean brands such as "LG", "Hyundai" and "Samsung". The latter owns companies operating in the: food industry, shipbuilding, insurance, infrastructure, tourism, advertising, financial services and more. Thanks to the successful development of enterprises, the country quickly turned into an industrial state focused on exporting products. For example, "Samsung" helped create an innovative cluster in the mobile telecommunications sector.

Almost half of all sales in South Korea come from large enterprises. The biggest ones are "Samsung" (electronics, engineering, shipbuilding, construction); Hyundai (electronics, mechanical engineering, shipbuilding, construction); LG (electronics, mechanical engineering); SK (chemical industry, telecommunications, mechanical engineering); Hyundai motors (automotive); Hanjin (transport); Pohang Iron and Steel (metallurgy); Lotte (trade, light industry, services, telecommunications); Kumho (Chemical, Construction, Transportation); and Hanhwa (chemical industry, telecommunications). They are actively pursuing a strategy of penetrating new market niches through the development of corporate research centers, active collaboration with research institutes, other potholes, small and medium-sized companies. Their success was manifested in the creation of high-tech regional agglomerations (electronic complex Kumi, and automobile and shipbuilding center Ulsan).

Of course, not all the peculiarities of the functioning of chaebols can be effective for the Ukrainian economy. However, some specific characteristics can help to increase the efficiency of enterprises, in particular:

- Mass production (in the case of large-scale production, the price of final production is much lower as the ratio of production and development costs to production decreases).
- Technology mix (the production of an innovative product requires the combination of several technologies and, if the company includes units engaged in development in different areas, then the cost of purchasing equipment or components is significantly reduced, because they are purchased at cost and without cost).
- Vertically integrated structure (ensures rapid production process, stability and mutual assistance of subsidiaries).
- Design (in addition to the quality of the goods, attention is paid to the promotion of the brand, promotion of the product, creation of unique design).
- State formation of an effective system of stimulating support for participants of industrial parks.
- Creation in 1961 of the Economic planning committee, whose activity is to plan, finance, collect statistics and control decision-making in the innovation field.
- Coordination of the President and the Government of the country with the processes of creation and development of industrial complexes.

In addition to chaebols, small and medium-sized enterprises operate in South Korea. 87.5% of the country's employed population is concentrated in these enterprises. South Korea's small and medium-sized enterprises are encouraged to innovate through the application of:

- Tax breaks for the development of small enterprises (tax credit is granted for research and development; benefits are paid for the payment of wage taxes to employees of small innovative enterprises).
- Mechanism for co-financing research and development.
- Mechanism of financing start-up activities through funds.
- Competitive procurement mechanism of public procurement.
- Public-private partnership mechanism (annually the state spends about 5,053,050 € on programs).
- Cluster development networks.
- Accumulation and patenting of the results of intellectual activity for the purpose of their use in domestic production. For example, patenting in electronics and communications technology is 40 % of the world level.

In South Korea, the most common form of national innovation system is the industrial complexes that began to emerge in the early 1960s. Since then, 250 units have been created, of which 30 have been granted national and regional status. The state plays an important role. In particular, this concerns:

- Orientation of industrial complexes for export production.
- Development of priority types of economic activity in industrial complexes.
- Involvement of business in the process of development of South Korean industrial complexes.

In the early 2000s, the initiating role of industrial complexes in South Korea's economic development began to diminish as: labor costs rose, there were rising levels of cheap Chinese goods; companies that form industrial complexes were at low technological level; efforts were concentrating on increasing production performance rather than on creating innovative infrastructure; involvement of young scientists in industrial complexes was at the low level, etc. That is why at this time there is a need to transform existing industrial complexes into innovative clusters.

Clustered development, characteristic of industrialized South Korea, began to intensify with the increasing activities of the state. Thus, in 2004, the Government of South Korea established 7 industrial complexes (Panwol, Kunsan, Gwangju, Kumi, Changwon, Ulsan, and Wonju), as well as one "Daedeok Innopolis" science and technology zone. Their coordination is carried out by the South Korea Industrial Complex Corporation [7 - 9].

The formation of innovative clusters in South Korea is in the areas of reconstruction and modernization of industrial complexes, formation of own brand, as well as increase of competitiveness of manufactured products, etc. The implementation of these clusters in South Korea is linked to the innovation cluster development strategy. This is in order to: provide state support for the creation and development of an innovation cluster, commercialise technological developments, differentiate scientific developments and technologies, develop small and medium-sized high-tech enterprises, etc.

In 1990, the State institute for development of the Korean institute for economic and technology was established in South Korea as part of state support for the formation of a cluster initiative [10]. The aim of the institute is to stimulate the transition of industrial enterprises from labor intensive to intellectual technologies, as well as to create, develop and support the activity of innovative clusters.

In addition, the innovative development of South Korean cluster policy is based on public-private partnership principles. These include the creation of high technology clusters as well as the "Songdo international business district free economic zone". They are a successful example of the implementation of the state clustering policy. Interesting fact is that it is planned

to set up a network of smart clusters in Changwon, as well as near Seoul. By 2022, the country plans to create 10 similar forms of organization of innovation activities [11, 12]. The difference between “smart” clusters and other forms of organization of innovation activity is the existence of a common information system. This allows different resident companies to interact with each other quickly. For example, organizing joint purchases of consumables or raw materials will save up to 15%. In addition, cooperation will be possible for the implementation of projects by several enterprises. “Smart” clusters will consume less energy and use it more efficiently.

A multi-vector venture capital support system has been established in South Korea, which is not inferior to developed countries in the complexity of its venture capital approach. Since 1997, more than 27,000 venture capital enterprises have been established (65% of the country's venture capital enterprises are centered on the capital) [13]. The number of employees is about 700 thousand people, which is 5% of the country's employed population. Venture sales reaches 138,423,380,000 € (or 15% of GDP) [13]. At present, Korean venture capital enterprises are focused on operating in two directions: innovative and market-oriented. This means that, on the one hand, they bring to life the requirements of the market (production of high-tech goods), and on the other hand - carry out science-intensive activities (technology development, the accumulation of new ideas). Thus, we can say that the Korean venture business is a synthesis of small business and high-tech enterprise.

Support for the activities of small and medium-sized enterprises, venture-backed high-tech enterprises is provided by the Small and medium business administration. It is a separate unit of the Ministry of economy and knowledge of South Korea. Its function is to formulate plans, strategies for supporting and setting up small and medium-sized businesses, venture capital enterprises. In addition, there are several other organizations that support the development of small and medium-sized businesses as well as venture capital firms. In particular, the most famous are:

- Small and medium business corporation, which is a non-profit corporation. Its activities are funded by the state. The organization implements the policy of the Office for development of small and medium business, venture enterprises.
- Korean institute for startup and entrepreneurship development is a reporting Agency of the small and medium business development office. The institute's activities are related to the establishment and maintenance of information and education centers in South Korea (educational work related to the opening of small and medium-sized enterprises, and venture capital enterprises).

- Korea trade-investment promotion agency is a state-owned corporation that provides investment, consulting and export management services.
- Korea venture industry association monitors the activities of venture capital enterprises, the marketing of the venture ecosystem, as well as educational, educational and coordination work in the direction of venture capital development.

Thus, South Korea's state-run innovation institutes play an important role in the functioning of small and medium-sized enterprises, venture capital firms.

The activities of the Korean business incubators started with the initiative of the Korean institute of technology (1991). The first is the established business incubators “Ansan business incubator” and “Seoul incubator venture companies”. In order to be allowed to work in a business incubator, it is necessary to comply with the requirements set by the state. The state has initiated the creation of business incubators.

The system of work in a business incubator began with the fact that at the moment of preparation for opening the enterprises, which were established not more than 1 year, can apply. In addition, they did not receive State aid at the time of application. It should be noted that another condition is that 50% of the shares should not belong to large or foreign companies, as well as to persons who were on vacation, belonged to the category of unemployed, etc. Staying in a business incubator lasts from 6 months to 3 years. The management company provides: premises, equipment, equipment for workshops, workshops, offices, laboratories, as well as provides training and consulting (accounting, marketing, taxation, research, production, design).

There are 18 technology parks in South Korea, the main focus of which is technology development. One of the famous technoparks of the Republic of Korea is located in Daejeon (in 2008), with an area of 53,019 m². There are 63 companies operating on the territory of the technopark, as well as 5 scientific centers (“Radio engineering center”, “Robotocenter”, “Nanomaterials development center”, “Biotechnology center”, and “Intellectual property center”) and 5 administrative departments.

Technopark activity is financed through state funds (50%) and municipal funds in Tengen (50%). During the last years the technopark has been implementing the concept of “Three goals. Four strategies. Twenty projects.” The purpose is to understand activation of venture capital enterprises, development of traditional industry, and promotion of global entrepreneurship. To accomplish this goal, it is necessary to perform such tasks as providing a basic service; combining traditional production and high-tech production, and strengthening the role of innovative management. The implementation of these tasks has led to the

implementation of 20 projects ("enhancing interaction and partnership between foreign and local agents", "creating a complete technology support system", "adaptation of advanced technologies and enhancing the information field", etc.). It should also be noted that the technopark is not only a platform for the implementation of projects, but also functions as a fund that provides financing to companies. Territorially, they may be located beyond its boundaries.

In addition, there are special multi-storey complexes in South Korea that focus on manufacturing and office space. The most famous is the "Guro Digital Complex" (Seoul), which employs 11,000 high technology exporting companies. This is the so-called network of "flat-type factories". The total number of employees is 120 thousand. In addition to office and industrial space, there is a well-developed infrastructure (shops, pharmacies, canteens, etc.). The areas are designed for small businesses that are rented out at low cost. Thus, the state creates special conditions for activating business with talented people.

There are four types of special economic zones in South Korea: foreign investment zone, free trade zone, free economic zones, and Jeju investment promotion zone. Regulation of their activity is carried out on the basis of a special law «Special Act on Designation and Management of Free Economic Zone (FEZ)», in 2002.

It should be noted that the functions of the administrative-state management of special economic zones are performed by the free economic zone committee established under the Ministry of trade, industry and energy of South Korea.

In South Korea, foreign nationals are allowed to own businesses registered in special economic zones. Investors are guaranteed repatriation of profits and capital from outside the country. Foreign investment firms engaged in high technology or industrial maintenance services are exempt from tax for a period of five years. In addition, over the next two years, South Korean legislation provides for the ability to pay taxes of 50% of the amount of due tax. It should be noted that in order to attract foreign investment in South Korea, mini-special economic zones can be created. Investors are involved in the activities of such a form of innovation activity in accordance with the: Law of South Korea "on designation and management of special economic zones", the Law "on encouragement of foreign investments" and regulations of local authorities. According to the decision of the Committee on special economic zones, any foreign investor or company with foreign investments that use a land area of more than 82.5 thousand m² are granted the status of "mini" special economic zone. Land rent is reduced to 1% of its market value [14].

The government offers special economic zone residents benefits only to companies that have invested more than

25,321,350.00 € or those who have invested and worked in previously established Special Economic Zones.

2.3 The experience of regulatory support for the development of industrial enterprises in South Korea and Ukraine

South Korea is a unique country in terms of economic growth based on innovation. In a short time, the state has achieved significant success, the main stages of which we have considered in Table 1. South Korea is a unique country in terms of economic growth. In a short time, the state has achieved significant success, the main stages of which we have considered.

In accordance with the Constitution of South Korea and the framework Law on "framework intellectual property", a Presidential Council for intellectual property has been established. The main task is to formulate a strategy for the development of innovative activities, as well as to identify the most priority projects.

The main regulatory acts of South Korea governing the issues of innovation are the following laws: "Framework act on science and technology", "Framework act on intellectual property", "Trademark act", "Industrial technology innovation promotion", "Patent act", "Act on the promotion of technology innovation of small and medium enterprises", "Utility model act", "Trade act", "Fair transactions in franchise business act", "Technology transfer and commercialization promotion act", "Industrial design promotion act", and "Technology development promotion act".

The innovative development of South Korea is within the competence of several ministries: Ministry of science and ICT, Ministry of education, Ministry of strategy and finance, and Ministry of trade, industry and energy (Table 1). The ministries include the establishment of mechanisms for regular monitoring of global technological and patent trends, and the introduction of flexible early-stage investment mechanisms into promising technological areas with high industrialization potential.

Under the Ministry of Science and ICT of South Korea, a National science and technology council has been set up to address the issues of planning, assessing their compliance with current technological trends and the needs of the country's industry [18].

Since 2014, with the support of the Ministry of trade, industry and energy and the Korea chamber of commerce and industry, the manufacturing innovation committee has been operating. The committee has 26 members. These are representatives of economic organizations, government agencies, as well as representatives of companies in the processing industry, information technology development. The Committee's main task is to develop and set up a set of measures to support South Korea's economic and innovation development.

Table 1. Stages of innovative development of industrial enterprises of South Korea

1960s
Implementation of the country's first five-year economic development plan (1962). The purpose of the implementation was to strengthen the role of export-oriented economic activities (textile, clothing, and footwear). Institutes for innovative development were established (Korea Institute of science and technology, Korea's leading science and technology institute), as well as the Ministry of science and ICT of South Korea (1967).
1970s
Development of priority economic activities (metallurgy, petrochemical industry, shipbuilding, machine building, and electronics). Private companies that developed these areas received state aid in the form of tax and utility benefits. The activity of creating chaebols, which is protected by the state, was intensified.
1980s
National program of scientific and technical development was developed. The purpose of the program was to support private companies in the field of high technology development. Tax incentives have been created to support scientific and technological development, as well as foreign technology imports. The state invested money in the creation and development of technology parks, science parks.
The 1990s is a modern period
Under the initiative of the Ministry of science and technology of South Korea, a special law on scientific and technical innovation has been adopted. A five-year plan for scientific and technological innovation has been developed. The National high-tech project in the field of scientific and technological development has been developed. In the 1990s, the program "At the border of the 21st century" was developed and implemented, with the aim of developing key technologies in priority economic activities. In order to quickly implement the program, a clustered system of technological entrepreneurship support was developed. The cluster has a leading university that is the center of scientific and technological activity. Technology parks, incubators are created within the cluster to support start-ups. Due to the restructuring of "chaebols", non-core production has been selected. In 1998, the Ministry of commerce, industry and energy of South Korea developed a specialized program for working with small and medium-sized businesses. In 2007, a startup support program (consulting, grants, legislative initiatives, etc.) was identified. State research centers were restructured in 1998. Adopted long-term strategic initiative "Long-term forecast for the development of science and technology by 2025", in 1999. The basic plans of science and technology in 2003, in 2008, in 2013, and in 2018 were agreed. In 2000, the Korea techno-venture foundation was established, whose purpose is to develop venture capital through the implementation of a program of promotion, the formation of an entrepreneurial culture and the commercialization of technology with global capital. In 2011, the Ministry of knowledge economy of South Korea was established. It includes the Ministry of trade, industry and energy, the Ministry of information and communications, and the Ministry of science and technology.

Legend: Compiled by the authors [5, 6, 8, and 15 - 18].

In order to promote cooperation among research institutes, a Plan for advanced cooperation amongst industry, academia, and research institutes was developed by the Ministry of trade, industry and energy. Main purpose of this document is to establish market links between scientific centers, business incubators and technoparks with the real economy. The document addresses such issues as: conducting joint research programs among institutes, accelerating the commercialization of scientific results, introducing a system of training specialists, creating territories for innovative development, special economic zones, technoparks, and clusters.

South Korea's current innovation policy is aimed at promoting the formation of an innovation system that is developing in the direction of tripartite cooperation between industry, education and public organizations. Cooperation with other countries, especially the European countries, is one of South Korea's key policy areas for innovation. The Korean scientific cooperation network encourages the interaction of contemporary

research and innovation (approximately 70% of South Korean doctors have completed study programs abroad).

Based on the analysis of the development of innovation activity in South Korea, it should be noted that in recent years, the country has managed to create a unique innovation system that focuses on stimulating innovation through the active use of cluster policy; development of small, medium and venture entrepreneurship. The Korean experience for Ukraine is that the state invests money in human capital development, scientific and scientific and technical work; the state has reoriented its efforts towards the development of private initiative; opportunities to absorb new knowledge and technology depend on the level and quality of education. Accordingly, the creation of a highly skilled link in the science and technology sector is a priority for the development of a highly developed country. The Korean experience also demonstrates the need to focus on the development of small and medium-sized businesses, venture capital, and provide

government support for its operation. As for the development of industrial enterprises in the food industry, the products that may be in demand in the Korean direction include: dry whey, confectionery, canned meat and canned foods, butter, mozzarella, starch, spirits, juices. The peculiarity is that the Government of Korea implements a strategy for concluding free trade agreements both with individual states and with economic blocs. Currently, 15 agreements have been concluded with 52 countries (including 28 states of the European Union, 10 "Association of Southeast Asian Nations (ASEAN)" states and 4 European Free Trade Association (EACT). The Republic of Korea's foreign trade liberalization policy facilitates access to goods from countries with which free trade agreements are concluded. This reinforces competition in relation to Ukrainian goods as a price factor due to higher duties.

Ukraine can develop in the field of complex and high-tech engineering services, such as: programming in the field of industrial high-tech/creation of new software products, including new technologies 4.0; design (electrical, mechanical, electronic, technological, construction, etc.); industrial automation and integrated engineering (including commissioning of industrial sites); development and production of complex, small-scale or unique products.

The main strategic initiatives and directions of development in Ukraine of Industry 4.0 for the period up to 2021 are as follows:

- Institutionalization of the development of industrial high-tech segments at the state level (introduction of a system of reforms to stimulate industrial production in Ukraine; creation and implementation of programs that will improve the overall readiness of the industry to Industry 4.0; creation of conditions for accelerated development of industrial high-tech segments).
- Creation of an innovative ecosystem of industrial high-tech segments (carrying out an audit of existing elements of the ecosystem, bringing the targets of their development to the target model of the innovative ecosystem of industrial high-tech segments); adjustment of technology transfer from Ukrainian scientific institutions, scientific parks, R&D laboratories, as well as from international centers and corporations to end customers; creation of networks of the most effective structural elements of the industry 4.0 ecosystem - examination centers, R&D laboratories, technoparks, incubators and startup accelerators, etc.; attracting investments and funds to accelerate innovation development.
- Accelerated development of clustering at regional and national levels (institutionalization of cluster policies and initiatives at the level of governmental structures; creation and implementation of regional

development programs 4.0, especially in the regions with the strongest potential of industrial high-tech segments (Kharkiv, Dnipro, Zaporizhzhia, Kiev).

- Full-scale digitization of key sectors of industry, energy and infrastructure (creating regulatory incentives to accelerate digitalization, both in the end-customer environment and in the innovators 4.0; creating roadmaps for digital transformation in target industries; IT-fiction) of the industrial sectors, etc.

State regulation of special forms of organization of innovative activity in Ukraine is governed by a set of laws, among which the leading place is occupied: the Law of Ukraine "on innovative activity", the Law of Ukraine "on priority areas of innovative activity in Ukraine", the Law of Ukraine "on priority areas of science and technology", Law of Ukraine "on scientific and scientific and technical activities", Law of Ukraine "on state regulation of activities in the field of technology transfer", Law of Ukraine "on special regime again this activity of technological parks", the Law of Ukraine "on industrial parks", the Law of Ukraine "on science parks", as well as special laws to support the development of industries (shipbuilding, aircraft, space industry), etc. The implementation of the outlined tasks in these regulatory documents is of particular importance in connection with the implementation of international cooperation programs. In particular, this concerns the Association Agreement between Ukraine and the European Union (Articles: 157, 159, 372, 375, 376, etc.), which provides for the creation of an enabling environment for technology transfer and the facilitation of the commercial use of innovative products.

Issues of formation and development of special forms of organizational activity in Ukraine were considered as an integral part of the National innovation system development at the parliamentary hearings, 2007. Further discussed at the parliamentary hearings "Strategy of innovative development of Ukraine for 2010-2020 in the conditions of globalization challenges", 2009 was also subsequently approved by the Cabinet of Ministers of Ukraine on the Concept of development of the national innovation system for 2009-2013.

In today's context, the important documents that determine the directions of development of the innovative environment in Ukraine are the "Sustainable development strategy - Ukraine 2020" (№ 5/2015 of January 21, 2015) and the Program of activities of the Cabinet of Ministers of Ukraine. It was prepared by the CMU in accordance with the Constitution of Ukraine, the Law of Ukraine "On the Cabinet of Ministers of Ukraine". The main objective is to implement the Association Agreement between Ukraine on the one hand, and the European Union, the European atomic energy community and their member states, on the other, as well as the provisions of the Eighth Verkhovna Rada Parliamanta-

ry Coalition Agreement. Subsequently, the Cabinet of Ministers of Ukraine "on approval of the plan of measures for implementation of the concept of public policy reform in the innovative sphere for 2015-2019" was issued (from June 04, 2015 № 575).

Another document that regulates the functioning of special forms of organization of innovative activity is the approved "State strategy for regional development for the period up to 2020" (Cabinet of Ministers of Ukraine of August 6, 2014 № 385). The Ministry of Energy and Environmental Protection of Ukraine is working on the preparation of a new version of the energy strategy of Ukraine. It should be noted that according to the Government action plan for 2016 (Decree of the Cabinet of Ministers of Ukraine dated May 27, 2016 № 418), the development of the strategy for the development of high-tech industries by 2025 is envisaged. The corresponding strategy was prepared by the Ministry of economic development, trade and agriculture of Ukraine, 2016. It is still not approved by the Government of Ukraine. Another document (Decree of the Cabinet of Ministers of Ukraine of December 18, 2018 № 1106) "on approval of the plan of priority actions of the Government for 2019" provides for the creation and operation of a network of technology and innovation support centers; development and submission to the Cabinet of Ministers of Ukraine of draft laws on improvement of legislation in the sphere of innovations (support of innovative activity, technological start-ups, venture capital, clusters); development and submission of the Cabinet of Ministers of Ukraine of the Law of Ukraine on activation of activity of scientific parks, etc.

The concept of the State targeted economic program of innovative infrastructure development for 2017-2021 (2016) by the Ministry of education and science of Ukraine has been developed. It still remains unaccepted.

Despite the positive developments in the process of development of special forms of organization of innovation activity and existing problems, the draft Laws: "on support and development of innovation activity", "on amendments to the tax code of Ukraine (on stimulating innovation)", "on amendments to the budget code of Ukraine (on innovation promotion)", "on amendments to some legislative acts of Ukraine on innovation promotion", etc.

In order to intensify the Ukrainian-Korean cooperation in the innovation sphere, it is necessary to:

- Review incomplete regulatory documents, update current ones, and develop new state targeted programs:
 1. According to the Concept of creation of industrial parks, approved by the decree of the Cabinet of Ministers of Ukraine (№ 447 on August 1, 2006), the development of this type of activity

in our country was initiated, the mechanism and sequence of actions for the implementation of state policy in the field of creation and development of industrial (industrial) parks were defined, and wide opportunities for stimulating investment and innovation activity in Ukraine were guaranteed.

In 2012, the Law of Ukraine "on industrial parks" was adopted. In order to further develop industrial parks in Ukraine, a draft legislative package (№ 2554 a-d and 2555 a-d), which introduces tax and customs investment incentives for new domestic industrial enterprises, was adopted as a first reading. Implementation of the specified directions that will help to create and develop a network of industrial parks in the territory of Ukraine will facilitate activation of investment activity, development of the real sector of the economy, creation of new high-tech industries and jobs, increase of volumes and assortment of output of export-oriented products.

2. It should be noted that unlike industrial parks in Ukraine there is no institutional and legal support for their functioning, so the main tasks of functioning of clusters in Ukraine include: the creation and development of clusters; development of cluster links and network cooperation; increasing the influence and responsibility of local authorities in the context of decentralization for ensuring cluster development; implementation of an effective cluster policy is possible in the context of a set of measures to significantly improve the investment climate; and legislative definition of the mechanism of creation of transnational clusters. In particular, concluding bilateral agreements on the creation of transnational clusters at the level of governments of countries, agreeing strategies and plans for the development of national parts of transnational clusters.
3. In Ukraine there are separate legislative acts that define the legal, economic and organizational principles of functioning of technological parks. In particular, the Law of Ukraine "on special regime of investment and innovative activity of technological parks" № 991-XI of 16.07.1999 defined the legal, economic bases for the functioning of technological parks due to the introduction in their territory of a special regime of innovative activity. In 2005, some of the most important articles in the laws governing technoparks were abolished.

Therefore, in our opinion, it is necessary to take immediate steps in the following areas:

- Improvement of the current Law of Ukraine "on the special regime of innovative activity of technoparks" and introduction of measures of state support for the development of technoparks.

- Creating a favorable investment climate to attract Chinese and domestic investors to develop joint ventures with industrial enterprises on an innovative basis in priority economic activities.
- Development and implementation of joint Ukrainian-Chinese projects commissioned by the governments of the countries in the space and aviation industry; production of machine-building products; production of new materials and generics, as well as IT technologies.

Ukraine is interested in intensifying bilateral trade and economic cooperation with South Korea. In 1992, a Communication on establishing diplomatic relations between Ukraine and the Republic of Korea was signed, which stated the intentions of our countries to build full-scale cooperation. For a long time establishing diplomatic relations between Ukraine and South Korea, cooperation has been reached in areas of mutual interest. A number of institutional mechanisms have been created that play an important role in deepening bilateral relations. In particular, the intergovernmental Ukrainian-Korean Commission on trade and economic cooperation, the Joint committee on scientific and technical cooperation, the Joint committee on cooperation in the peaceful uses of outer space, and the Joint commission on cooperation in the field of defense and material and material security. The mechanism of political consultations between the foreign ministries of the two states has been established.

In the course of the study of Ukrainian-Korean cooperation, institutional support has been identified which contributes to the strengthening of relations (Agreement between the Cabinet of Ministers of Ukraine and the Government of the Republic of Korea on cooperation in the use of outer space for peaceful purposes; Agreement between the State space agency of Ukraine and the Ministry of education, science Korea on the establishment of the Joint Ukrainian-Korean committee on cooperation in the peaceful uses of outer space, etc.). Among the achievements in this direction are: the launch by the Korean side of the multipurpose satellite "Koreasat-5" with the help of the Ukrainian launch vehicle within the framework of the Sea Start project (2006); launch of the Korean satellite of Earth remote sensing "KOMPSAT-5" ("Arirang-5") with the help of the Ukrainian rocket carrier "Dnipro" (2013); launches of satellites: "STSAT-3" science and technology satellite (2013) and "KOMPSAT-3A" satellite (2015). The Republic of Korea's space program may create new opportunities for Ukrainian profile enterprises and scientific institutions in the field.

Among Asian countries, South Korea remains the leading investor in the economy of our country - 144,772,448.55 (0.4% of total foreign direct investment

attracted to the Ukrainian economy). There are 28 companies with Korean capital operating in Ukraine, the hearts of which are "Samsung", "LG", "Hyundai" and others.

Further development of relations with South Korea will open up significant opportunities for Ukraine in political, economic and humanitarian spheres. The priorities of our state in the development of trade and economic cooperation with South Korea can be called [19 - 23]: restoration of trade volumes (primarily due to the increase of Ukrainian exports); initiating investment projects involving South Korean corporations to further leverage the experience gained to enhance Ukraine's attractiveness to investors from South Korea and other Asian countries; declaring, in the framework of contacts at the highest and highest levels, an interest in intensifying trade and economic cooperation and formulating specific goals for such cooperation; strengthening the legal framework for economic cooperation; trade balance alignment; development, with the involvement of the state structures of Ukraine and South Korea, joint indicative plans and forecasts for the development of strategic projects of bilateral economic cooperation; active development of industrial-investment cooperation; expansion of cooperation in the field of science and technology (significant interest for Ukraine is cooperation, which can create some added value for its economy). Particular attention should be paid to the functioning of organizational forms of innovation in the context of today's globalization challenges. This will facilitate not only the exchange of experience and knowledge, but also the creation of transnational, trans-regional organizational forms of innovation (clusters, industrial parks, technology parks, industrial complexes, venture business, pots and other similar structures).

3. Conclusions

- The most effective way to ensure conditions for increasing the development of food industry enterprises can be organizational forms of innovation, as evidenced by international experience.
- This will facilitate not only the exchange of experience and knowledge, but also the creation of transnational, trans-regional organizational forms of innovation (clusters, industrial parks, industrial complexes, venture business, chaebols and other similar structures).
- That contributes to the training of highly qualified specialists who work in the creation and development of special forms of organizing innovation.
- An important aspect is the international exchange of knowledge, specialists and technologies.

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