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REALIZATION OF REGIONAL INNOVATION POLICY

Abstract. The innovative policy which is a priority for the states seeking to find their own niche and strongly occupy certain positions in the world economy, is considered. Regions of Kazakhstan have got significant resource and raw materials, production, human resources. It is noted that despite the positive trends that have emerged in recent years, there are a number of unsolved problems in the regions of the Republic, including low innovative activity of enterprises, low proportion of production of knowledge-intensive and high-tech products, insufficient funding for scientific research and development works. An important stage of innovation and technological development and increasing of competitiveness of regional economies is highlighted as the development of innovative structures and management mechanisms. Formation of the innovation system; the introduction of mechanisms to stimulate innovation; the organization of innovative business structures will contribute to the development of competitiveness of the region. The levels of realization of regional innovation policy are considered: republican and regional (including local). Large export-oriented domestic enterprises began to introduce the technologies of the fourth industrial revolution in their industries in order to improve competitiveness.

Key words: region, mechanism, innovation, digital economy, activity, technologies, potential, conception, stimulation, interaction.

Introduction. The formation of an economy that based on knowledge and corresponds to modern trends of techno globalism, supposes the transition to an innovative way of development of the country's regions. Regions of Kazakhstan have got significant resource and raw materials, production, human resources. However, despite the positive trends that have emerged in recent years, there are a number of unsolved problems in the regions of the Republic, including low innovative activity of enterprises, a small proportion of production of knowledge-intensive and high-tech products, insufficient funding for scientific research and development works and, as a result, a low proportion of the implementation of their results in production. This situation is mainly explained by the lack of worked-out schemes of searching ideas, incubation of scientific and technical developments and their following commercialization [1]. Development of innovative structures and management mechanisms is an important stage of innovation and technological development and increasing of competitiveness of regional economies. The following contribute to the development of competitiveness of the region: the formation of an innovation system; the introduction of mechanisms to stimulate innovation; the organization of innovative business structures.

Innovations should be the main factor determining the competitiveness of the national economy. Development of economic relations in the region is carried out through various types and forms of integration on the basis of direct economic relations. Selection of the processes of integration of production is conditioned on the need for a complex approach to solving the problems of the innovation system of the region and the development of high-tech sectors of the national economy. The nature of the tasks itself facing us today requires the coordinated efforts of many sectors, scientific institutions and economic bodies.

Research methodology. Innovation policy of the region should provide [2]:

- development and effective use of innovative potential of the region;
- formation and realization of promising regional scientific, technical and innovative programs and projects for the benefit of providing sustainable social and economic development of the region;
- investments from budget and out of budget sources through the development of public-private partnership mechanisms for the realization of scientific, technical and innovative programs and projects of regional importance;
- maximum possible use of the achievements of domestic and foreign science during the realization of structural and technological modernization of industries in the region;
- initiating the introduction of a regional contract system in the sphere of scientific and technical developments;
- solving of social and economic problems of regional importance due to increasing the orientation of the regional order for scientific, technical and innovative products;
- stimulating of innovation and inventive activity, increasing of the level of patent protection of products and technologies that are created in the region;
- assistance to protect national interests in getting the results of scientific research performed at the expense of budgets of all levels, and ensuring the improvement of national content in products and technologies that are created in the region;
- development of business planning of innovative activity;
- monitoring and control over observance of legislation requirements by all entities of the scientific, scientific – technical and innovative activity of the region.

Research results. Regional innovation policy should be realized at two levels: republican and regional (including local) [3]. The basic concept of the formation of a system of mechanisms for the realization of regional innovation policy at the republican level should be based on the following regulations:

- national interests have got priority over the interests of individual regions;
- it is necessary to weaken regional differentiation. Formation of rational territorial proportions and effective spatial development of the country is possible only if the territorial economic and social asymmetry and economic growth of all regions are softened by self-force;
- not only depressed regions have got the right for state support, but also developed regions which are able to provide high returns on invested funds;
- assistance to backward regions can be provided only for the realization of innovative projects which ensure high production efficiency during their realization;
- state support is necessary to create zones of advanced development, appealed to become centers of formation of innovative economy and to ensure the growth of competitiveness of the economies not only of the region, but also of the whole country [4].

Innovation policy, as the core of general economic policy of the state should be connected first of all with the innovative restructuring of industrial production [5].

In 2017 work was carried out on development of measures for technological re-equipment of the industry, including elements of the fourth industry of the revolution. Measures have been developed which are directed to create a necessary ecosystem to support domestic enterprises planning to digitize and stimulate more active introduction of digital technologies. These measures are included in the state program "Digital Kazakhstan».

Creation of model digital factories on the basis of existing enterprises is one of the main projects. In this regard, seven enterprises were selected and work continued with the Fraunhofer Institute for technological diagnostics and development of digitalization plans: in JSC "Kantau transformer plant" (machine building), JSC "Eurasian foods" (food industry), JSC "Chimpharm" (pharmaceutical industry), JSC "AK Altynalmas" (metallurgy), LLP "Karlskrona" (machine building), LLP "Almaty Fan Plant" (machine building), LLP "Bal Textile" (light industry).

At the present moment, the work on technological diagnostics, selected enterprises and the development of roadmaps for the introduction of digital technologies on them has been completed.

In total, experts recommended more than 200 measures (projects), from 20 to 38 measures for each enterprise, held meetings with companies to discuss the offered measures.

Improving of industrial safety, especially in dangerous industries is an important effect of the introduction of digital technologies. In this regard, the draft Rules of industrial safety for dangerous production facilities that lead mining and exploration, taking into account the use of digital technologies to improve safety in the workplace. In December this year, these Rules will be approved by the MID RK [6].

For innovative cooperation in the mining sector, the project "Production 4.0" (testing and transfer of domestic solutions at the production site) is being realized.

In order to encourage business to introduce advanced digital technologies within the framework of the "Productivity-2020" program, appropriate changes were made to the Rules for providing state support to the entities of industrial and innovative activities aimed at increasing productivity. The main innovation is the focus on reimbursement of expenses on introduction of Industry 4.0 technologies.

Work on realization of projects on digitalization of backbone enterprises is carried out simultaneously. Totally 14 projects amounting to 140,2 billion tg are planned to be realized until 2025. The economic effect from their realization is expected to reach at the level of 239.8 billion tenge (GVA) until 2025. From them 3 projects (2 projects ERG, 1 project "KazZinc") were realized last year.

Plans for the digitalization of regions with different terms of realization in the period up to 2025 have been developed, 143 digitalization projects (86 enterprises) are expected to be realized, from which 72 projects (49 enterprises) are to be implemented in 2018.

With the purpose to improve competitiveness, large, export-oriented domestic enterprises have begun to introduce the technologies of the fourth industrial revolution in their industries [7].

"Maker" LLP (Karaganda region) modernized its production with modern robotic equipment and complex software. Economic effect - 8.9 billion tenge in 2018 and 11.2 billion tenge in 2019. LLP "Prom-mashkomplekt" (Pavlodar region) applies robotic manipulators which install parts on different machines and send ready parts to the warehouse. Economic effect - increase of to be produced product range in 2.35 time, increase of volume of to be exported product in 9.68 time.

Generally, it is necessary to note that the measures taken to stimulate the transition of industry to "Industry 4.0" will assist to increase the share of large and medium-sized enterprises in 2022 that have realized digital technologies up to 11%. To the labor productivity growth, including due to digital technologies for 39.8% (by 2016) and will be about 30 million tenge in the mining sector and 48.9% (13.9 million tenge) in the processing industry.

The concept of the State program of industrial and innovative development for 2020-2025 years provides such areas as the development of the "economy of simple things", the saturation of the internal market with domestic goods, support for exporters in the processing industry and the realization of large, breakthrough projects through the attraction of private investments, including foreign ones. At the same time this ensures continuity with the "Strategic development plan-2025", taking into account key initiatives and principles.

The approaches to the Concept of the Third industrialization program are based on the key challenges for further qualitative growth and steady competitiveness of the processing industry: insufficient inflow of investments in fixed capital, unformed critical mass of enterprises, low "complication" of to be produced products.

The purpose of industrial innovation policy is to stimulate the competitiveness of the processing industry in the domestic and foreign markets [8]. Achievement of this purpose will be provided by solving three tasks:

1. Deepening of industrialization. The task is directed to improve the efficiency of enterprises, provide the internal market with domestic goods, rational placement of enterprises in the points of growth and the creation of a pool of competitive producing enterprises.

2. Expansion of the production volume, range and complication of the processed goods which are in demand in foreign markets. This is a task on exporters.

3. Increase of industrial capacities. This task will be solved by stimulating the development of new industries, creating of capital-intensive industries, including with the participation of transnational companies and foreign investors, and providing the necessary raw materials to the processing industry enterprises.

In order to achieve the goal and tasks successfully 5 directions of industrial and innovative development are expected.

1. Performance of a proactive trade policy which is directed to remove barriers to foreign trade within the EAEU, access to the market of China, Central and South Asia, as well as rational protection of the domestic market.

2. Advanced creation of specialized factors of production at the points of growth. Efforts will be directed to the development of high-quality industrial, digital and certification infrastructure, human capital, competence centers.

3. Creation of new capital-intensive and knowledge-intensive industries, using the possibilities of the state on distribution of raw materials and the provision of attractive conditions for investors.

4. Direct support of effective enterprises in domestic and foreign markets. Efficiency will be measured by the ability to steady competition in domestic and foreign markets.

5. Increasing of the efficiency of the industrial innovation support system through more exact setting-up of the processes of coordination, financing and monitoring of industrialization policy.

The third program of industrialization will be different from previous two five years. Firstly, there will be a shift from field priorities to support effective producers in all spheres of processing industry. Secondly, efforts will be focused on the development of new, widening and "complication" of the existing range of to be produced products, including consumer goods. Thirdly, direct support will be provided in exchange for business counter-obligations in order to achieve specific indications (modernization, export growth, etc.). Fourthly, necessary infrastructure and standards will be created within the framework of preparation of industry for the "digital age".

Support of enterprises based on the model of balanced development will also be continued [8]. Companies will get complex support at all stages of their development - from beginner to successful. Further, attention will be paid to three groups of enterprises.

The first group "Strong back" – the enterprises of processing industry that will increase the volume and range of domestic products including consumer goods and create a pool of future exporters.

The second group "Competitive producers" - existing exporters, their tasks: expansion the range and increasing complexity of the export basket.

The third group "Centers of gravity" – large, capital-intensive projects, including in basic spheres, and also with the participation of TNCs and foreign investors. Development of production of new types of industrial semi-finished products and the provision of the necessary raw materials will be provided due to them.

According to the results of the Third program of industrialization, achievement of the main indicators in the processing industry is planned. Among them real growth of investment in fixed capital in 2 times, real growth of labor productivity in 1.7 times, growth of exports of processed goods in 2.3 times, increase of the Index of economic complexity up to 55 places, increase of the number of operating enterprises per 1,000 people, economically active population in 2.3 times.

This will allow to strengthen the work on further increasing of the value added in the economy, "complication" of the basket of to be produced goods and expansion of its presence in foreign markets.

Conclusion. The priority directions in the formation of the structure of the region's economy should be such integrated entities that provide the largest increase in value added. Therefore it is necessary to include an entity whose products are in demand both within the region and beyond into the groups of inter-sectorial integration of material production. It is necessary to group all other enterprises or organizations according to their functional purpose as independent entities on maintenance of programming production facilities or to include them in these entities.

At the present moment, there are possibilities for innovative development in almost all industries of Kazakhstan. Through development institutions the state will take part in the projects that are focused on creating an integrated system of industries which create competitive products, gradually developing the technological chain of added values.

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**АЙМАҚТЫҚ ИННОВАЦИЯЛЫҚ САЯСАТТЫ
ІСКЕ АСЫРУ**

Аннотация. Әлемдік экономикада айқындалған орын алатын және өзіндік орынын тапқысы келетін, мемлекет үшін басымдық бағытқа ие болатын инновациялық саясат қарастырылған. Қазақстан аймақтары кадрлық ынталандыруға, өндірістік, ресурстық шикізаттарға айтарлықтай ие болып отыр. Атап айтқанда, соңғы жылдардағы көрсетілген айқын тенденцияларға қарамастан, республиканың аймақтарында шешілмеген мәселелер баршылық екендігін, оның ішінде кәсіпорындардың инновациялық белсенділігінің төмендігін атап айтуға болады, жоғары технологиялық салалар мен жоғары технологиялық өнімдердің төмен үлес салмағы мен тәжірибелік-конструкторлық және ғылыми-зерттеу жұмыстарын қаржыландырудың жеткіліксіздігін көруге болады.

Инновациялық-технологиялық дамудың және аймақтық экономиканың бәсекеге қабілеттілігін жоғарылатудың маңызды этаптары басқарудың механизмі мен инновациялық құрылымның әдістемесі ретінде бөлінген. Аймақтардың бәсекеге қабілеттілігін дамыту инновациялық жүйенің құрылымына сәйкестендірілген, инновациялық ынталандыру механизмдері енгізілген, инновациялық бизнес – құрылымды ұйымдастыруға негізделген.

Аймақтық инновациялық саясатты іске асыру деңгейлері қарастырылған: республикалық және аймақтық (жергіліктіні қоса алғанда). Бәсекеге қабілеттілікті арттыру мақсатында ірі отандық экспортқа бағытталған кәсіпорындар төртінші өндірістік революцияның технологиясын өз өндірістерінде енгізуді қолға алған.

Түйін сөздер: аймақ, механизм, инновация, цифрлық экономика, әрекет, технология, ынталандыру, концепция, өзара әрекеттесу, потенциал.

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РЕАЛИЗАЦИЯ РЕГИОНАЛЬНОЙ ИННОВАЦИОННОЙ ПОЛИТИКИ

Аннотация. Рассмотрена инновационная политика, являющейся приоритетом для государств, стремящихся найти собственную нишу и прочно занять определенные позиции в мировой экономике. Регионы Казахстана обладают значительными ресурсно-сырьевым, производственным, кадровым потенциалами. Отмечено, что несмотря на наметившиеся в последние годы позитивные тенденции, в регионах республики имеется ряд нерешенных проблем, в числе которых следует отметить низкую инновационную активность предприятий, малый удельный вес производства наукоемкой и высокотехнологичной продукции, недостаточное финансирование научно-исследовательских и опытно-конструкторских работ. Выделен важный этап инновационно-технологического развития и повышения конкурентоспособности экономики регионов как разработка инновационных структур и механизмов управления. Развитию конкурентоспособности региона будет способствовать формирование инновационной системы; внедрение механизмов стимулирования инноваций; организация инновационных бизнес-структур. Рассмотрены уровни осуществления региональной инновационной политики: республиканском и региональном (включая местный). В целях повышения конкурентоспособности, крупные экспортоориентированные отечественные предприятия приступили к внедрению технологий четвертой промышленной революции на своих производствах.

Ключевые слова: регион, механизм, инновации, цифровая экономика, деятельность, технологии, потенциал, концепция, стимулирование, взаимодействие.

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