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Report

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**PROSPECTS OF INNOVATIVE ENTREPRENEURSHIP  
IN TURKPA COUNTRIES**

**I. INTRODUCTION.**

1. At the world level in conditions of high turbulence, the competitiveness of the enterprise, industry and the economy as a whole based on the active use of innovation, which in turn lead to the creation of new products, new jobs, to increase investment and to rise the overall level of economic development.

2. Countries that adhere to the innovative type of economy are characterized by such distinctive features, as a high index of economic development, a high level of development of education and science, a high share of innovative enterprises (over 60-80%) and innovative products, an increase in the share of high technology industries as part of GDP (17-20% of GDP), significant funding for Research and Advanced Development (RAD), and so on.

3. At the moment, the economy, based on innovation and knowledge, has an ever greater strategic potential. This is due to the fact that the innovation economy becomes less dependent on macroeconomic fluctuations, as the use of innovation and structural differentiation of production contributes to the greatest resistance to price changes and exchange rates.

4. In the TURKPA countries, the trend of formation of an innovation economy differs somewhat from that of the West and the United States. Top ranking are the United Kingdom, Switzerland, America, Finland, Sweden - these countries are characterized by a high level of income. TURKPA countries (Azerbaijan, Kazakhstan, Kyrgyzstan and Turkey) are examples for TYURKPA - leaders on a number of indicators. In addition, the following trend is observed: import of high-tech products significantly exceeds its exports, which causes inefficient technology exchange.

5. In the market of TURKPA countries, large international companies and enterprises operating on the foreign market have high innovative activity. In most cases, innovation is inseparable from business processes and the introduction of innovative technologies. The introduction of new products constitutes a significant share of the innovative activity of companies, but often these products are new only for itself, and not for the global market.

6. In general, the indicators show that the TURKPA countries have a great potential in the use of innovations, but for this it is necessary to modernize the entire RAD sector, form a demand for scientific and engineering personnel and a holistic innovation system. It should be noted that the modernization and development of innovative economy in the TURKPA countries - is the prerogative of the states participating in this site.

Since business is profit-oriented, the state should set the vector of innovative development of those areas, which can give the country a competitive advantage in the international market.

## **II. Report on "Prospects of innovative entrepreneurship in TURKPA countries".**

7. At the present stage, it is in developed countries that there is a transition to an innovative economy, which is based on an effective system of developing and implementing the latest technological solutions in various fields of activity. At present, the production period is coming to an end based on cheap, unskilled labor. And the main resource here is a person who must not only perceive innovations, but also strives to implement them.

8. In this connection, it became necessary to find adequate approaches to the development, formation and functioning of innovative entrepreneurship, since the movement along the innovative path of development is possible only if there are favorable conditions for effective implementation of the country's accumulated innovative potential and its further expansion, building an effective mechanism for managing innovation processes.

9. The effectiveness of introducing innovations correlates with the goals of marketing, and the effectiveness of innovative relations depends on the number of clients, the client base, the density of connections, the quality of emotional-

psychological and organizational-economic relations, the correlation of results and costs of innovation, optimization of costs for the development, sale and consumption of innovation. It should be noted that the specifics of the application of innovative marketing depend on the industry in which the enterprise operates, from its financial capabilities, from consumers of an innovative product.

10. But in general, we can distinguish 6 stages, which is the strategy of innovative marketing: general economic analysis of the market, analysis of the economic conjuncture, special market research, development of innovation penetration system, operational marketing activities and evaluation of costs and revenues from marketing. In order for an enterprise to effectively use innovative marketing, he needs to have resources and possibilities, including intellectual, financial, material, human resources. However, the motivation is the demand for innovations, marketing tools and the scientific and technological impact of the macro environment on the state of the enterprise.

### **Innovative entrepreneurship of the Republic of Azerbaijan**

11. At present, Azerbaijan is working to develop innovative capacity, improve human resources, perfecting of the regulatory framework. In February 2014, the President of the Republic of Azerbaijan adopted a state Program on social and economic development of the regions of the Republic of Azerbaijan for 2014-2018, which is based on the Development Concept "Azerbaijan 2020: A Look into the Future". Azerbaijan plans for the development of scientific infrastructure, modernization of the material and technical base of science and creation of conditions for the transition of information support systems in this field to the electronic form. In order to create an innovative economy in Azerbaijan, the links between science and production will be strengthened, the necessary mechanisms have been created for carrying out applied scientific research in accordance with market demands. In addition to developing innovative entrepreneurship and creating an enabling environment for the development of new types of activities and products, it is envisaged to strengthen measures for the transfer and development of advanced technologies, creation of techno-parks and innovation zones for the development and application of science-intensive products and technologies. On December 2016 President of the Republic of Azerbaijan approved "Strategic Roadmap on the production of consumer goods at the level of small and medium entrepreneurship". Action Plan of the Road Map envisages "Establishment of the innovative regional clusters". In this regard, Ministry of Economy has been authorized to determine successful regional cluster models taking into account international practice.

12. At present, work is continuing on the preparation of the relevant regulatory and legal framework and the State Fund for the Development of Information Technologies has been established. The Fund was established by the Decree of the President of the Azerbaijan Republic on March 15, 2012 No. 2095. It is endowed with the right of venture financing (long-term and risky investments in the activity of "small innovative legal entities"), (*source-Journal "Review of Economic Reforms in Azerbaijan" April 2017*) as well as financing of start-up projects selected by competitive means. "As of September 1, 2018, financial support was provided to 117 projects in the field of ICT."

**13. Infrastructure of innovative development support.** In Azerbaijan, there was a big discrepancy in the territorial distribution of industries. About 60% of industrial production in the country, 57% of the basic production assets were concentrated in the Apsheron economic region. With the goal of uniform socio-economic development, the country was conditionally divided into economic regions: Absheron, Aran, Mountain Shirvan, Ganja-Gazakh, Guba-Khachmaz, Nakhichevan, Kalbajar-Lachin, Sheki-Zakataly, Upper Garabagh. The Government of the Azerbaijan Republic applies principally new mechanisms of concentration of production capacities by creating technological parks of various profiles, business incubators and "industrial quarters." Techno-parks are primarily designed to contain relatively large plants and factories, are aimed at the development of mass production, calculated, including the delivery of products to foreign markets. To date, the "Sumgait Chemical Industry Park" and "Balakhani Industrial Park" techno-parks have been commissioned, as well as the High Technology Park. Continuation of the dynamic development of Azerbaijan provides for accelerating the formation of industrial sites, based on existing natural and economic resources and creating large volumes of gross value added. Work continues on the creation of modern industrial parks in Ganja, Mingachevir and in the Garadagh district of Baku.

#### **14. Programs and activities for the development of innovation.**

The main task of the Azerbaijani business incubators is the development and implementation of business ideas, intended for the development of the ICT sector, small-scale science intensive production, as well as the development of entrepreneurial initiatives in the field of innovation services, research, agriculture, industry, services, etc. The first business incubator was established in the Guba-Khachmaz economic region in September 2014, the second one will be opened in Aran economic region, and the third one will start its activity in two years in Sumgait chemical industrial park and will focus mainly on the industrial sector. The creation

and operation of business incubators is directly tied to the project of the Ministry of Economy of the Azerbaijan Republic prepared in 2013 on supporting and involving youth in the innovative business environment. To support 3,000 young entrepreneurs in the country over the past 12 years, some 340 million US dollars have been allocated. It is assumed that the creation of business incubators will serve to increase employment of the population in the regions, the development of innovative and promising lines of business, will serve as a platform for the creation of regional business plans and investment projects. Work continues in Azerbaijan to create industrial blocks, which are of great importance in terms of reducing infrastructure costs when organizing the production process, strengthening cooperative ties, developing small and medium-sized enterprises and solving other issues. Key business associations, development institutions, venture funds, innovative companies of Azerbaijan - like the Sumgait Techno-park (STP) which was opened on December 24, 2009. The total area of the STP is 250 hectares and further expansion of the park is planned.

#### **15. Sources, volumes and mechanisms of state financing of innovative activity.**

At all the factories the newest laboratories of European production accredited according to the standard AZS ISO / ISEC 17025-2009 are installed. Produced products have a certificate of compliance, international standards ISO 9001 and OHSAS 18001 have also been introduced. High Technologies Park (HTP) was created by the Decree of the President of the Republic of Azerbaijan Republic on November 5, 2012 N. 736. According to the legislation of Azerbaijan, HTP residents receive exemption from the following taxes: VAT, profit tax, land tax, property tax. In addition, equipment imported for use in research and development projects of HTP will be exempted from VAT. Companies that carry out their activities in the following areas will be supported by HTP: Internet business, space and telecommunications, software for mobile devices, biotechnology, software for medicine, graphic animations, LED technology, robotics and mechanics, energy saving systems, alternative power sources. Since February 2014, HTP is a member of the World Association of Science Parks, Innovation Centers and other innovative structures. Balakhan industrial park. Construction of the Balakhan Industrial Park began in December 2012. The purpose of the park is to expand the country's production of competitive industrial products based on high technology, sustainable development of the non-oil sector, increasing employment in the production sector, and improving the ecological condition of the city of Baku and suburban settlements. The industrial park provides recycling of waste of plastic products, tires, electrical and electronic devices, batteries, non-ferrous metals, cable and other household waste. The close location of the park to the transport hub creates the conditions for easy delivery of the products of secondary processing or produced products to the sales market. Companies of the park residents are released for seven years from four

types of income taxes, land and property taxes, VAT equipment and technology (source - *Center for Analysis of Economic Reforms in Azerbaijan. Baku. May 2017*). “The Ministry of Transport, Communications and High Technologies together with Public Association “Regional Development” of Heydar Aliyev Foundation conduct startup tours in Baku and regions with the view of providing support to the expansion of the startup movement and the implementation of new innovative ideas of citizens. The organizers of the project are High Technologies Park, the State Fund for Development of Information Technologies and Microsoft Corporation. Partners of startup tours, held under the motto “From Idea to Business”, are the Public Association of Youth Movement “Javan” and company Azercell. Startup tours will be held in Sheki, Ganja, Nakhchivan, Sumgayit and Baku by covering the surrounding regions and cities.

Tours are anticipated to create enormous opportunities for the youth in regions to develop, discuss and present business projects, as well as form startup teams and ideas with the support of mentors.

The winners of the 1st, 2nd and 3rd places from each region will be eligible to participate in the National Finals in Baku. Winners of the 1st, 2nd and 3rd places in the National Finals will be awarded by the organizers and partners. They will also have the opportunity to present their projects within the framework of the 24th International Exhibition and Conference “Telecommunications, Innovations and High Technologies” Bakutel. Winner-projects will have the opportunity to make use of mentoring services, to attract investments as well as send successful startups abroad and participate in international events.”

**16. The current state of development of individual technological areas.** Center for Scientific Innovations of the National Academy of Sciences of Azerbaijan by Resolution of the Cabinet of Ministers of the Republic of Azerbaijan of August 22, 2008 N. 197, State Center for Registration of Research and Development Work and Protected Dissertations (SCR) of National Academy was renamed the Center for Scientific Innovations (CSI). The goal of the CSI is the analysis of research and development, the collection of advanced technologies and innovations related to the development of knowledge-intensive areas and the creation of an information base. The Center for Project and Innovation Management at the Azerbaijan Technical University was established on November 1, 2014 at the Azerbaijan Technical University together with the Azerbaijani division of the International Project Management Association. The main goal of the Center for Project Management and Innovation is the introduction of international standards and methodologies for project management in the Republic of Azerbaijan. Sumgait Chemical Industrial Park (SCIP) was established by the Decree of the President of the Azerbaijan Republic on December 21, 2011 N. 548. SCIP industrial zone is divided into clusters of chemistry of polymers, building chemistry, chemistry of the automotive industry,

agricultural chemistry, household chemicals and medical chemistry. The purpose of the AIC is to support the development of the non-oil sector of the Azerbaijani economy. The main directions of AIC for investments are agriculture, industrial production, alternative energy, ICT sector, etc. List of international events in the field of innovations and high technologies: June 1-2, 2017 CASPIAN OIL & GAS 2017 24th International Caspian Oil and Gas Exhibition and Conference, May 31 - June 3, 2017 CASPIAN POWER 2017 7th Caspian International Exhibition "Energy and Alternative Energy", October 18-21 2017 CTE 2017 "Caspian: Technologies for the Environment" 8th International Exhibition in the Field of Environmental Protection, December 5-8, 2017 BAKUTEL 2017 The 23rd Azerbaijan International Exhibition and Conference "Telecommunications and Information Technologies".

### **Innovative entrepreneurship in the Republic of Kazakhstan**

17. **The regulatory and legal framework** that defines common approaches for the further development of the innovation system in Kazakhstan. The Concept was approved by the Decree of the President of the Republic of Kazakhstan No. 579 of June 4, 2013. Finalization and approval of the Concept were carried out taking into account the instructions of the President given during the 26th plenary meeting of the Council of Foreign Investors on May 22, 2013. The concept summarizes the main results and puts forward three possible scenarios for the development of innovations in Kazakhstan. The overall idea of the Concept is the transition to the development of a private innovation initiative through the implementation of flagship projects.

The Concept has 21 targets. Among them:

- achievement by 2015 of the level of innovative activity to 20%, by 2020 - 50%;
- the share of innovative products in GDP - 2.5% by 2020;
- expenditure on RAD - 2% of GDP by 2020.

The main result of the implementation of the Concept will be a 4-fold increase in the output of high conversion (5-6 level of technological complexity) (*source- Strategy 2050. Message of the President of the Republic of Kazakhstan to the people of Kazakhstan*).

18. **Infrastructure of innovative development support.** The infrastructure of support and development of entrepreneurship is a complex of organizations, providing favorable conditions for the creation, functioning and development of entrepreneurial activities. In the Republic of Kazakhstan they include: state and state-created organizations, non-governmental organizations, international and

foreign organizations and commercial organizations. Depending on the functional orientation, the structure of the infrastructure institutions looks as follows: state support and assistance at the stages of formation, functioning and development of business; financial support; information and analytical support, support in the field of education and professional development in business; logistical support. Let's list some institutes of support and development of an infrastructure of business of RK: JSC "Damu Development Fund", JSC "Development Bank of Kazakhstan", JSC "Investment Fund of Kazakhstan", JSC "National Innovation Fund", JSC "Center for Engineering and Technology Transfer", JSC "Center for Marketing and Analytical Research". All these institutions are called upon to pursue a policy of investing in the creation of new and development of existing production facilities with high added value, as well as support of scientific and technical research and development.

The material and technical support of entrepreneurship at the stage of its formation and development is represented by: business incubators, industrial parks, industrial zone, leasing and factoring companies, franchising and a number of others.

**19. Programs and activities for the development of innovation.** One of the manifestations of the rising level of infrastructure is the study of the development of clusters of the country. Clusters allow more efficient use of the resource potential, stimulate the growth of the number of small and medium-sized enterprises, provide access to new markets. Joint use of infrastructure facilities, storage facilities, labor resources, logistics services, scientific achievements, as well as integrated planning of raw materials and production, timely implementation of it makes it possible to reduce costs through systemic advantages. The concept of forming a network of techno-parks in the Republic of Kazakhstan is carried out taking into account the experience of the formation of innovative infrastructure in foreign countries (USA, China, Germany). Usually techno-parks are created in cities where there is a network of scientific and industrial organizations with high scientific and technological potential and in the interests of the domestic market. At the same time, they have a clear thematic, sectoral and regional focus. For example, the "Park of Nuclear Technologies" in Kurchatov, East Kazakhstan region, LLP "Techno-park" Algorithm "(petrochemical industry) in the West Kazakhstan region, Techno-park "IT in Mechanical engineering" in Uralsk and a number of other.

**20. Sources, volumes and mechanisms of state financing of innovative activity.** Currently, in domestic practice, budgetary funds, own funds of enterprises, financial resources of customers and funds of foreign investors are the main sources used to



finance RAD. According to the Agency for Statistics of the Republic of Kazakhstan, in 2007, the share of expenditure on RAD in GDP was 0.26%, that in comparison with 2003 it is more in 2, 2 times. In the structure of RAD expenditures in 2007, budgetary funds amounted to 13.6 billion tenge or 50.9%, own funds of enterprises - 4.8 billion tenge or 18.0%, customers' funds - 7.8 billion tenge or 28.9%, foreign investments - 0.45 billion tenge or 1.6%. In the field of RAD to finance promising scientific developments, right up to their introduction into the production process, grants and co-financing with the private sector are used. The main requirements for obtaining grants are innovation and commercializability of ideas. Financing is provided to legal entities on terms, providing for the equity ownership rights of JSC "National Innovation Fund" for the results of the Experienced in design development (EDD). To coordinate the activities of the development institutions, JSC "Fund for Sustainable Development" Kazyna "was established. In addition to the coordinating function, the created structure accumulates state funds for the acquisition abroad of stakes in transnational corporations, working in those industries that are "points of growth" of the Kazakh economy. Venture funds are now an important source of funding for innovation. Therefore, the creation of venture funds is entrusted to the state financial development institute of JSC National Innovation Fund (NIF). At the same time, the share of the NIF in the authorized capital of the venture fund being created should not exceed 49%. The financing will be provided through the acquisition of shares or participation interests in companies implementing innovative projects. When investing funds, preference will be given to complementary technologies, as well as to companies, located at different stages of a single production cycle, or realizing identical products. Today in Kazakhstan there are 11 venture funds, including 6 domestic and 5 foreign venture funds, which will carry out their activities for 7 years, with the right of extension for 2 years. Currently, they have financed 14 projects totaling \$ 25 million in such areas as the creation of new materials, information technology, semiconductor manufacturing, biotechnology, and pharmacology (*source- National Statistical Committee of Kazakhstan*).

**21. The current state of development of individual technological areas.** Such features of innovative activity of enterprises of Kazakhstan: the concentration of innovation spending in manufacturing (78%); a higher level of innovation activity of large enterprises that make up the core of the corporate sector of Kazakhstan; the main share in the structure of costs of process innovation (91%), which means the orientation of enterprises to improve technological processes and technological diversification, rather than a product one, which is due to a significant dependence on the transfer of foreign technology and the weakness of domestic sources of R &

D & I; the main type of innovation activity of Kazakhstan enterprises and in terms of costs and prevalence of this practice is the introduction of new technologies by acquisition of equipment and materials (52%). The analysis of the state of the corporate sector was carried out. Forms of organization of corporate RAD and innovations at large enterprises of Kazakhstan are considered. A comparative analysis of corporate systems of R & D & I JSC NAC Kazatomprom, JSC NC KazMunayGas, JSC "Arcelor Mittal Temirtau", JSC "KEGOK", their shortcomings and advantages are highlighted. The low level of costs for corporate RAD and their low dynamics were noted. The strategy of attracting investment capital in Small and medium business (SMB) of the Republic of Kazakhstan is aimed at creating institutional conditions for diversifying business activities, expanding its profile, developing new industries, increasing the assets of small businesses, creation of high technology export-oriented industries and access to foreign markets. However, there is still no single point of view on how to invest SMB in a market economy. In the framework of innovations, incubators, technology parks, innovation and technology centers, research institutes, information systems, technology transfer centers cooperate.

### **Innovative entrepreneurship in the Kyrgyz Republic.**

22. In the transformed market economy of the Kyrgyz Republic, innovative entrepreneurship was reflected in the creation of a network of small innovative enterprises, which are built on commercial principles. The current state of investment and innovation activity in the Kyrgyz Republic can be characterized as the stage of formation of the National Innovation System (NIS).

23. **Formation of the regulatory and legal framework** of the NIS is in accordance with the Concept of the State Innovation Policy of the Kyrgyz Republic. In support of innovation activities of enterprises and organizations by the Decree of the Government of the Kyrgyz Republic of January 27, 2003 № 28, The State Innovation Fund was established, and the Concept of Scientific and Innovation Development of the Kyrgyz Republic for the period up to 2022 was adopted and approved by the Decree of the Government of the Kyrgyz Republic of February 8, 2017 No. 79 that regulates a number of documents and innovation activities.

The concept of scientific and innovative development of the Kyrgyz Republic for the period up to 2022 (hereinafter to be referred to as the Concept) is a perspective vision of the national innovation system (hereinafter to be referred to as NIS) of the

Kyrgyz Republic and defines the principles, fundamentals and priority directions of the country development. The concept was developed on the basis of the National Sustainable Development Strategy of the Kyrgyz Republic for the period 2013-2017 (hereinafter to be referred to as NSDS). The concept is designed to answer the challenges facing Kyrgyzstan in the field of innovative development by building a clear system of goals, priorities and tools of state innovation policy. The ZK KR approved in 2017 the sustainable development strategy of the Kyrgyz Republic for 2018-2040 *Taza Coom. Zhany Door. Development PROGRAM* of the Kyrgyz Republic for the period 2018-2022 *Unity, Trust, Creation* has been also approved by the Decree 2377-VI of the Zhogorku Kenesha of the Kyrgyz Republic dated April 20, 2018.

**24. Infrastructure of innovative development support.** Within the framework of the Plan of Priority Measures of the Government of the Kyrgyz Republic for the Implementation of the Program of the Government of the Kyrgyz Republic "Jany Doorgo Kyrk Kadam", approved by the decree of the Prime Minister of the Kyrgyz Republic on September 7, 2017 No. 609, 56 events are envisaged. In order to increase the competitiveness of enterprises, create new jobs, increase export volumes, tax revenues and attract new technologies, the project on financing export-oriented enterprises has been launched. It was decided to allocate 350 million soms from the republican budget for subsidizing the interest rate of 10%. As of December 20, 2017, export-oriented enterprises received preferential loans through commercial banks in the amount of 700 million soms. Also, in 2017 the Government of the Kyrgyz Republic developed and adopted the Action Plan of the Government of the Kyrgyz Republic for 100 days on the implementation of the Program of the Government of the Kyrgyz Republic "Jany Doorgo Kyrk Kadam", which was approved by the Resolution of the Government of the Kyrgyz Republic of September 22, 2017 No. 602. In this Plan, 8 priority directions are laid with 115 events. For entrepreneurs in the Kyrgyz Republic, special zones of the FEZ "Bishkek" and FEZ "Naryn" are established.

**25. Programs and activities for the development of innovation.**

At the present stage of development, the country's role and place in the system of interstate relations, the competitiveness of the economy and national security largely depend on the level of innovative development of the country. Therefore, the formation in the Kyrgyz Republic of an innovation system, an intellectual property market (hereinafter - IP) is one of the national interests of the country. In the National

Sustainable Development Strategy of the Kyrgyz Republic for the period 2013-2017, approved by the Decree of the President of the Kyrgyz Republic on January 21, 2013 No. 11, one of the priority areas is the improvement of the country's competitiveness on the basis of innovation. In the Program of the Government of the Kyrgyz Republic "Trust and Unity", approved by the Resolution of the Parliament of the Kyrgyz Republic from November 9, 2016 No. 1053-VI, it is noted: "Modernization of the economy requires technical re-equipment and the introduction of modern technologies in the promising areas of the economy. The economy of the Kyrgyz Republic is open to new technologies and innovations, which should be stimulated by fiscal, administrative and legislative norms". All this testifies that favorable conditions for investment activity are consistently formed in the country, including in the innovation sphere. The Kyrgyz Republic has a great potential for hydropower development, which allows to attract and create new IP-based energy technologies, especially for the development of the network of hydroelectric power plants of the Kyrgyz Republic (*source- Ministry of Justice of the Kyrgyz Republic. Bishkek, 2016*).

**26. Sources, volumes and mechanisms of state financing of innovative activity.**

In the total amount of expenses for technological innovations in the republic, 70.4% are enterprises own funds, foreign investments - 11.5, other sources of financing - 18.1%. At the enterprises producing food products, own expenses amount to 78.5%, foreign investments - 20.6 and other sources of financing - 0.9%. The costs of technological innovation in 2009 at the enterprises of the republic were mainly for the purchase of machinery and equipment - 85.4% of total costs. In addition, it should be noted the cost of preparing the production, industrial design for the introduction of innovations amounted to only 3.5% and other costs for technological innovation - 7.8%. Enterprises of the republic are focused more on technology transfer and almost do not produce products like "know-how". The need to introduce new technologies in the development of such deposits can give impetus to the activation of inventive and innovative activities in this industry. The Kyrgyz Republic has favorable climatic conditions for the development of agricultural potential. The creation and implementation of new IP facilities for the development of seed production, agriculture, crop production and processing of agricultural products will increase the production of competitive products in the domestic and foreign markets. Thus, technical progress is accelerating and the procedure for international exchange of technical innovations is simplified. According to the National Statistical Committee of the Kyrgyz Republic, for the period 2010-2017 the volume of investments in innovative activities amounted to about 2.5 billion soms (*source - National Statistical Committee of the Kyrgyz Republic. 2016*).

**27. The current state of development of individual technological areas.** In 2017 the surveyed enterprises shipped innovative products in the amount of 1243.7 million soms, or 1.2 percent of the total volume of shipped products (in 2013 - 1.6 percent, 2014 - 0.4 percent, 2015 - 1.5 percent, in 2016 - 3.0 percent). At the same time, the volume of newly introduced or subjected to significant technological changes products amounted to 1239.5 million soms (99.7 percent of the total volume of innovative products) and other innovative products - 4.2 million soms (0.3 percent). The costs of technological innovation in the industry are clearly incommensurable with the real needs of the domestic economy in the renovation of fixed assets and expansion of production of principally new competitive products. In 2017 the cost of technological innovation amounted to 2,437.0 million soms. There is a growing trend of those types of innovation that are directly related to the introduction of innovations, the acquisition of modern technologies. Thus, the purchase of machinery and equipment in 2017 was carried out by 9 enterprises, at the same time, expenditures amounted to 1186.2 million soms (82.5 percent of total expenses for technological innovations). New technologies were purchased by 11 enterprises for the amount of 20 million soms. Research and development was carried out by two enterprises, which spent 200.4 million soms for these purposes. In the total amount of expenses for technological, marketing and organizational innovations, the enterprises own funds make up only 6.5 percent, foreign investments 17.8, other sources of financing 75.7 percent. Proceeding from the foregoing, it should be noted that the process of introducing innovations by the enterprises of the republic remains extremely low and simultaneously dependent on imports of foreign innovations in the form of technology and technology.

### **Innovative entrepreneurship in Turkey**

28. One of the indicators of successful economic development in the country is the high rate of economic progress (growth). In practice, this is determined by the direct link between stimulating economic growth through increasing the intensity of innovation. In 2016, according to Turkish statistics, for the first time in the history of Turkey, the total costs of conducting survey and innovative research exceeded 1.5% of the country's GDP. The main body of state power in Turkey, which determines the priority areas of innovation policy, is the Ministry of Industry, Science and Technology. The Agency for Scientific and Technological Research of Turkey (TÜBİTAK), which was established in 1963, was subordinated to the Ministry, is the main body of executive power in the sphere of development of the

innovation policy of the Republic of Turkey. The main goal of TYBITAK is to promote the development of science and advanced technologies, support innovative and research work, and support young researchers.

29. **The regulatory and legal framework** in the sphere of innovation support is comprised of the Law on RAD Support No. 5974, Strategy for the development of science, technology and innovation 2011-2016, National strategy of RAD and innovations in the energy sphere, National Strategy of RAD and innovations in the field of water resources, National RAD strategy and innovations in the field of nutrition, National Human Resource Strategy for Science and Technology 2011-2016, Law No. 4691 "On Zones of Technological Development (ZTD)". Amendments to this law were made twice: in 2004 - Law No. 5035 (on measures of state support for commercial and non-commercial enterprises conducting RAD); in 2005 - Law No. 5281 (changes in taxation of enterprises conducting RAD) (*source - Ministry of Justice of the Republic of Turkey. Ankara 2016*). It should be noted that Turkey is constantly working to improve the legal base regarding the rules for the creation and operation of ZTD. Thus, the main set of rules No. 28939, concerning the creation of technological development zones - techno-parks, came into force. The fundamental strategy for the development of Turkey in all areas, including innovative development, is the "Vision-2023" Strategy, timed to the centenary of the formation of the Republic of Turkey.

30. **Infrastructure of innovative development support.** The Republic of Turkey pays special attention to the creation of infrastructure to support the country's innovative development. The Turkish Government believes that the creation of a model with a developed innovative economy in the country is one of the priorities of the state development. In order to implement these plans by the Grand National Assembly of Turkey on June 26, 2001, Law No. 4691 "On Zones of Technological Development (ZTD)" was passed. ZTD are specially created zones for supporting research and research and attracting investments in high-tech industries. A special ZTD (techno-park) is a property complex in which scientific research institutes, industrial facilities, business centers, exhibition grounds, educational institutions, as well as service facilities: means of transport, access roads, security service. In Turkey, techno-parks are being created to support research and development and attract investment in high-tech industries. At present, 53 techno-parks (39 operating, 14 at the stage of attracting investments and construction) and 142 research centers will be counted in the country, acting on the basis of higher educational institutions

and large industrial enterprises. Six such zones are in Ankara, five in Istanbul, four in Kocaeli, and three in Izmir. In the suburbs of Istanbul, in the industrial zone "Gebze" there is a negotiation site where "TYBITAK" and other interested departments of Turkey hold conferences, seminars on scientific issues with the participation of Turkish and European scientists.

### **31. Programs and activities for the development of innovation.**

Within the framework of the program for the development of the innovation sphere in Turkey, the National Research Center for Nanotechnologies was established, where research is conducted in the field of nanoelectronics, nanophotonics, nanotextiles, ultrafast lasers and spectrographs, nano magnetic sensors and nanometric scale instruments. It should be noted that private-state partnership in the field of innovative development is widely spread in Turkey. So the largest financial and industrial group of Turkey "Sabanci Holding" together with the State Planning Organization of Turkey established the Center for Nanotechnology and Implementation at the Sabanci University. The center conducts research in the field of biotechnology and bioengineering, IT-technologies, engineering in electronics, mechatronics and robotics. It is planned that in the near future research will be conducted on the topics of solid and antifriction coatings, nanobiotechnology, nanoconductors, quantum conductivity, nanocrystals. One of the largest innovation development centers is Research Center Marmara subordinated to Tybitak Research Center, which includes the Institute of Energy, the Institute of Genetic Engineering and Biotechnology, the Institute of Nutrition, the Institute of Chemistry, Institute for the Study of the Earth. The main partners of the Marmara Research Center are the Istanbul University and the Istanbul Technical University and a number of European and American research institutes and universities.

32. Sources, volumes and mechanisms of state financing of innovative activity. In accordance with the law on RAD, the state provides special support to research projects in Turkey, if the number of employees in the research center of the staff is at least 50 people. Provisions provided for by the new law remain in force until 2024 and include: 1. Full exclusion of research and development costs from the tax base, if the number of specialists exceeds 500 people. In addition, half of the increased amount of corresponding costs for the current reporting year compared to the past will also be fully compensated. 2. The exemption of employees from the payment of income tax (this provision will remain in effect until December 31, 2023). 3. Granting 50% of social insurance benefits to employees for up to 5 years. 4. Exemption from payment of state duties when preparing the relevant documentation.

5. Provision of starting capital for research and development in the amount of up to 100,000 Turkish lira. It should be noted the advantages of participation of local and foreign companies in the ZTR: 1. Profits received from the development of software and other research and development are exempt from income tax and corporate taxes until December 31, 2023. 2. Profit from sales of application software released exclusively in the areas of technological development is exempt from VAT until December 31, 2023. This includes software for management, data management, applications for solving commercial problems in various fields of activity, Internet, mobile phones, as well as military operational management systems. 3. Until December 31, 2023 the salaries of employees in the field of RAD and maintenance personnel working in the technological zone, are exempt from all taxes. The number of maintenance personnel covered by this exemption should not exceed 10% of the total number of employees engaged in RAD. 4. 50% of the social insurance benefits will be paid by the Government of Turkey in favor of employees for 5 years until December 31, 2023. In Turkey, in addition, there are a number of programs for state financing of innovation: Program of "Industrial Theses" (SANTEZ). Direct financial support for the introduction of new technologies, development of production processes, improvement of product quality and implementation of environmental protection measures is carried out through cooperation with universities: - up to 75% of the project budget is provided directly in the form of grants; in Turkey - the project implementation period is 3 years, it is possible to extend this period for 6 months; - financing of laboratory research, procurement of materials and equipment. Loans for technology development projects - The organization of Technological Development of Turkey (TTGV) provides interest-free long-term loans for the development of technology, production of renewable energy, projects to improve energy efficiency and reduce environmental impacts.

**33. The current state of development of individual technological areas.** Among the separate technological areas in 2016 in Turkey, we can distinguish the following: Research Center for Cybernetics and Information Protection (TYBITAK BILGEM) carried out work on 31 research projects and 237 projects commissioned by Turkish ministries and departments, as well as foreign customers. Among the significant projects, it is necessary to note the completion of the work on the creation of a single electronic card of a Turkish citizen in Turkey (the UKTYUM project), thanks to which over 12 national patents were registered. The research Center "Maramara" paid special attention this year to projects in the field of biotechnology and waste utilization. Over 228 projects were implemented within the framework of the program on the use of bio-fuels in industry, the development of the first electric car



in Turkey by 2020, project on the study of various types of liquid fuels and its production, project E1000 - the establishment of a Turkish hydropower plant based on its own developments and achievements

*(source- Journal "Review of the state of the economy and the main directions of foreign economic activity of Turkey". 2016).*

### **III. CONCLUSION**

34. Thus, in our opinion, the implementation of investment and innovation measures should be carried out in the following areas, a significant liberalization of the legal and regulatory framework for regulating the inflow and conditions for the functioning of capital, create a favorable investment climate, form an infrastructure, serving the investment segment of the financial market and determining preferences for institutional investors. To improve the investment climate and attract direct investment in the economies of TURKPA countries it is necessary to develop and approve the inter-parliamentary agreement "On Investment Opportunities of TURKPA Countries", which will allow in practice to solve this problem in a complex manner. In the context of this Agreement, it is necessary to consider the possibilities of such segments of the investment market, as internal investments, portfolio investments, foreign investments (foreign investments) and reinvestment of innovative direction.

35. The system of stimulation of investment and innovation activity should contribute to the solution of the dual task of the state in the field of economy: the general activation of innovation, the provision of structural adjustment and the increase of the potentially competitive sectors of national economies, such as food, textile, processing industry, through measures of tariff and non-tariff regulation.

36. It is necessary to develop financial infrastructures, forms and methods of attracting domestic resources to the investment sphere, saving the population. To revive the investment activity, it is necessary to accumulate internal resources by issuing bonds and issuing shares of companies with state participation.

37. Consequently, the creation of favorable conditions in the investment and innovation spheres brings with them to the economy new high-tech industries, modernization of basic funds, creation of additional jobs, introduction of advanced achievements in the field of management, marketing, know-how, saturation of the domestic market with high-quality goods, increasing the export of products.

