

The problems of the use of intellectual property in the innovation system

Today in our country in more than 1100 scientific institutions and organizations work dozens of thousand of candidates and doctors. At the end of 2015 more than 26,000 are valid patents. All this indicates a significant innovation potential of Ukraine in accordance with international trends, and this should become a driving force for innovation development of economy.

According to the World Economic Forum in the 2014-2015 biennium according to indicators of technological readiness Ukraine ranks only 85th place among 144 countries (including the CIS countries having rates better than Ukraine, Moldova – 51st place, Russia – 59th, Kazakhstan – 61st, Georgia – 67th, Armenia – 71st, Azerbaijan – 72nd), for the innovative factors respectively: Ukraine – 92nd place, while Russia – 75th, Azerbaijan – 76th, Kazakhstan – 89th place. A considerable innovative potential on the one hand and extremely low production level innovation - on the other is indisputable evidence that this potential is very poorly used by industry. That is, between science and industry exists a gulf - and this is the problem for the state that needs immediate solution.

About the low efficiency of inventive activity in Ukraine that constitutes a threat the economic security of the state, following data indicate. In 2014 domestic applicants filed nearly 13 000 applications for inventions and utility models. However, non-payment of fees for maintenance of patents for inventions and utility models, invalidated 9,800 national patents owners (75%). The average term review of patent applications to patent is about 2 years. The economy of Ukraine for the year used about 4 thousand of Industrial property, including 1.8 thousand Inventions (about 7% of all existing patents), 2.4 thousand Utility models (6%), 393 Designs (4%). Consequently, most secure of protection for intellectual patent rights are not used in the manufacture and stopped its course of life immediately after working out and getting legal protection. Much of the potentially significant inventions obtained Ukrainian inventors (patents fugitives) are applied directly to the patent offices of foreign countries without previously submitting an application to the Patent Office of Ukraine and obtaining appropriate authorization. It means, that continues uncontrolled transfer abroad of scientific and design development, disclosure from Ukraine native applications for prospective inventions. Over the past 10 years Ukrainian applicants in foreign countries 12,154 patented inventions, including a patent in Russia - 47% in the US - 15.5 %, South Korea - 9 %, the EU - 8 %, Taiwan - 4%. During the same time to the Patent Office of Ukraine filed 3356 patent applications, which were then submitted to patent offices in other countries. Thus, with a small error we can assume that 8798 patents are "runaway patents," and such that violated the Law of Ukraine "On Protection of Rights to Inventions and Utility Models". The number of such patents are 22% of the total number of patents in Ukraine, but their potential "weight" definitely higher than this figure [1].

Probable cause of this situation is that today is not developed a system of economic incentives for the creation and commercialization of intellectual property in order to develop the market of these objects. The legislation does not set minimum rates of remuneration to inventors, authors for the creation and use of industrial property rights; not implemented mechanisms of state support for national patents subject of patent rights in foreign countries, established by the budget; No method of determining the amount of damage caused by the violation of rights to IPOs. There is not of development, based on the experience of foreign countries, assessment of piracy techniques for the use of various intellectual property rights.

The National Academy of Sciences of Ukraine (NAS of Ukraine) is an essential component of the national intellectual property system, the main scientific institution of national importance in the field of science and innovation. Based on the status of the NAS of Ukraine, its role in promoting the values of society, based on knowledge and effective use of the intellectual property is the lead. By the Institutions NAS of Ukraine annually implemented in various sectors of Ukraine's economy thousands of new developments, including advanced technology, including information, machinery, equipment, materials, automated systems and system software, database and knowledge base, plant varieties, guidance methods and standards. NAS of Ukraine attaches great importance to scientific and technological development of high-tech industries.

In Ukraine, the majority objects of intellectual property are created at universities and research institutions. Further, these objects are transferred to developers who develop on the basis intellectual property objects new products or production technology, then carried out production, and finally - its market implementation.

There are several barriers to transform intellectual property for innovative products. One of such is the imperfection of the national innovation system. National innovation system - a collection of national public, private and public organizations, as well as mechanisms of their interaction, in which the activities of the creation, storage and dissemination of new knowledge and technologies. The innovative system forms a system of relations between science, industry and society in which innovations are the foundation of the economy and society. The activity of Science Park NTU "Kyiv Polytechnic Institute" where sales of intellectual property are calculated over the past two years has tens of million and where the intellectual product comes to the production of high-tech products in the range from nano-satellites to drone is an example of functioning innovation system.

The desired outcome of the national innovation system is creating an environment in which intellectual property enables innovators and creators get economic benefit from their work and strengthen the country's economic achievements for the benefit of businesses, scientists, authors and society as a whole, and to enhance economic competitiveness.

Imbalance finance system innovation and manufacturing process technology serves as another barrier in the innovation system. Stages of the process of transformation of intellectual property in innovative products, such as: stage of research, which are created as a result of intellectual property and the development stage of a new product or technology, its production based on intellectual property

and its implementation. The first two stages are the responsibility of science, and the other two - the responsibility of business [2].

Science receives, mainly from the state budget, approximately 1% of the funds necessary to implement the full innovation cycle. These funds spent on research. Then the science has not the resources to finance the second phase - development - which requires an estimated 10% of the total funds needed, especially to finance the third phase - production (100%).

Therefore, first step is to create public funds that would be funded applied research and support innovative small businesses. Part of solving this problem is proposed in the draft Law of Ukraine "On scientific and technical activity", which provides for the establishment on the site of the State Fund of fundamental research much more powerful National Research Foundation, which will fund grant based on both fundamental and applied research. As part of the program of the Government the Ministry of Education and Science of Ukraine developed draft amendments to four laws that govern the innovation and technology transfer.

The scientific institution may have a large number of publications, many doctors, modern scientific equipment, etc., but society will not receive any return on the results of applied research. That use of the imperfect evaluation criteria does not assess the effectiveness of scientific and technological activities of universities and specialized research institutions. Now the Ministry of Education and Science of Ukraine is working to create a more transparent system of evaluation criteria and scientific activities of applied research, which will be based on the results of the introduction of intellectual property to economic turnover. For example, for technical universities it will depends not only from the traditional number of publications and theses are protected, but first of all the number of license agreements created startup companies, the amounts received from this royalty payments [3].

USA achieved the greatest success in technology transfer, as they were able to build effective working model of commercialization of intellectual property, which optimally combines the efforts of the state, science and business in promoting scientific development in the industry. However, this does not always work in the United States was successful. The situation improved dramatically after the US Congress in 1980 passed two complementary laws: the law of Bayh-Dole Act and Stevenson-Wydler. Bayh-Dole Act gave for the universities, non-profit organizations and small businesses ownership of inventions created and funded by the government. An example of this, many universities to school managed to organize a kind of conveyor belt, which through licensing and the creation of start-up-companies "pushes" intellectual property created at the University for the state money in the industry, and royalties received from licensing again leads to disclosure, patenting and licensing. And this line has been successful in the US over 30 years. The state gives money to universities for research and requires them to return. Universities create intellectual property and transfer it to companies. Companies organize jobs and produce innovative products. Taxes of this come to the state budget, and part of the proceeds to state again directs funding for science. The key provisions of Stevenson-Wydler law is that inventions funded from the federal budget must be licensed for commercial use in the public interest [4].

Stevenson-Wydler law gave broad powers to the Ministry of Commerce in order to increase the role that technological innovation for commercial and government purposes, support technology transfer at the national level. Given the fact that federal laboratories are a significant number of commercially valuable technology that could contribute to the competitiveness of firms increasing under US law requires that each federal laboratory should create the office of technology transfer to identify commercially valuable technologies and their subsequent transfer to the private sector. Both laws are aimed at creating a favorable environment for the development of mutually beneficial cooperation between the private and public sectors. In addition to these laws the innovation in the US make many other regulations, however, often it is referring to the Bayh-Dole law, because it is generalizing [5].

References

1. World Intellectual Property Organization [Electronic resource]. - Access mode: <http://geneva.mfa.gov.ua/ua/ukraine-io/wipo>
2. The State Department of Intellectual Property Annual Report 2012 - K .: State. Dep. intelligence. actually., 2013. - 59 p.
3. Boshytskyi YL Problems of optimization of the sphere of intellectual property in the modern Ukraine - Kyiv University of law journal 2014/3. [Electronic resource]. - Access mode: file:///C:/Users/pc/Downloads/Chkup_2014_3_44.pdf.
4. Stevenson-Wydler Technology Innovation Act of 1980; Public Law 96 – 480.
5. Bayh-Dole Act of 1980; Public Law 96 – 517.