

Commercialization of Intellectual Property as a Result of Scientific Studies

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SUMMARY.

This is a review of the legal framework that will allow for implementation of new intellectual property in various industries of the Russian economy. This is the direction that will help establish Russia as a developed economy.

The article discusses conditions that are necessary to incentivize scientists and inventors as well as business entities to actively engage in economic activity that would be focused on commercialization of intellectual property and aimed at long-term goals – in other words, transform the Russian economy into a world-class producer of goods and services instead of being mainly dependent on export of natural resources.

This article points out that legal framework has only been developed to cover the first phase of the commercialization of intellectual property – namely, strengthening protection of intellectual rights. At this time, there is an acute deficiency of sensible laws and regulations that would promote viability of innovation-based economy. Still, even within the existing legal framework and economic environment, there are ways to effectively and profitably commercialize intellectual property. This article doesn't provide a comprehensive analysis of the entire situation, but rather reviews proven and fairly simple ways of commercialization of intellectual property within the dietary supplement industry, which, in many instances is the first step toward developing new types of pharmaceutical drugs.

Key words: information technologies, commercialization of the objects of intellectual property on the enterprise.

РЕЗЮМЕ.

Рассматриваются основные законодательные предпосылки, позволяющие в условиях Российской Федерации начать внедрение в практику различных отраслей народного хозяйства созданных и вновь разрабатываемых объектов интеллектуальной собственности (ОИС) – то направление развитие экономики страны, которое может реально обеспечить становление государства как современной высокоразвитой державы. Статья способствует привлечению научных работников и хозяйствующих субъектов к развитию экономики на перспективной долговременной основе коммерциализации наукоемкой интеллектуальной собственности - иным путем, вместо сиюминутного достижения выгоды от краткосрочных вложений и существования

как донора сырьевых ресурсов. Указывается на то, что законодательно более проработана первая затратная часть коммерциализации ОИС, связанная в первую очередь с повышением степени охраны ОИС. И хотя остро сказывается законодательная и инфраструктурная недоработанность той стороны коммерциализации ОИС, которая собственно и обуславливает экономическую эффективность инновационного развития по пути внедрения в хозяйство ОИС, существующие нормативные схемы и возможности реализации уже позволяют осуществлять экономически эффективную внедрение - коммерциализацию различных видов наукоемких ОИС. Без претензии на всеохватывающий анализ ситуации в целом, рассмотрена практически апробированная авторами схема прохождения по одному из наиболее простых путей коммерциализации ОИС при создании на научной основе биологически активных добавок к пище, которые в ряде случаев являются первым этапом создания некоторых видов новых лекарственных препаратов.

Ключевые слова:

информационные технологии, коммерциализация объектов интеллектуальной собственности на предприятии.

After collapse of the USSR, the problems of intellectual property management became apparent in the Russian Federation. As a result of the reforms and privatization that were taking place in the country, the existing managing instrument of patent-licensed actions has been broken up, budget financing NIOKR and inventive work have been almost stopped and the industry-based structure of implementing the results of the applied scientific work into the national economy was abolished. The huge potential of scientific and technical innovation became derelict.

However, proper utilization of intellectual property in economic activity may promote steady growth of the country's economy, and increase its technological and economic independence, as well as increase standard of living. For this reason, in the last few years the government has consistently called for the transformation from raw material-centered economy to innovation-centered economy. These new tendencies were reflected in the proposals of the Russian government to non-commercial organizations to start self-repayment, particularly, through using scientific development that has been used by patented scientific institutions' developments that could bring economic advantage. But without patent services, development of the mechanism and creating the infrastructure that provides implementation into the practice of new and install results of NIR -to get these results to the practical use was almost impossible.

According to the messenger data 'Copyright', that has been established by Russian National Academy of Intellectual Property, on the world markets of science-intensive production for using

intellectual property in business - the different forms and means of competitive advantages of intellectual property got established and got developed. In a great measure, because of them, the leading countries in the world take dominate positions in the market of science-intensive production; part of them belongs to USA – 39%, Japan – 30%, Germany – 16%. Unfortunately, in Russia, a part of using science-intensive production in economics is not exceeding 0.5%. The sums of the currency income from sales of domestic licenses and patents abroad are at the same level.

A choice of the forms and resources of commercializing intellectual property first of all is established by the results of marketing researches, and based on that the expected income on the specific direction of using the objects of intellectual property (OIP) is formed. Along with that, when you choose a commercialization OIP option, presume that the largest profit copyright holder can get- is from using OIP in his own production to release competitive production or modernization of the production and implementing this production or services to the outside and inside market. While using other forms of commercialization OIP, the copyright holder can count just on the relatively small part of income that the user gets. The largest international companies have a big brief case of their own OIP and usually they aim to carry a strategy of the complex usage with applying all of the forms and resources of their commercialization.

In the past 20 years in Russia, for managing and commercializing the intellectual property, the legislative base of judicial security and usage of intellectual property have been created, the system of regulation valuation activities in this field; the remedies of involving OIP into economic turnover and measurement of intellectual property in nonmaterial assets on the balances of enterprises have been established. These absolutely necessary remedies belong to the first stage of the “life cycle” innovational process: development, judicial protection and implementing innovations, meaning to the expandable part, and barely connecting to its profitable part – commercialization and usage of specific advantages that present solutions for modernization problems and transfer to the innovative way of developing the economy in Russia.

List and classification of specific advantages of the objects of intellectual property in comparison to unprotected innovations allows to emphasize the next main forms and directions of its commercialization:

- Usage of protected results of the intellectual activity (intellectual property), that have been created based on NIOKR, in your own production for releasing competitive production or providing services and their actualization on inside and outside markets. Monopoly location in these markets provides the company to receive the highest profits

from commercialization of their own OIP.

- Sales of the licenses and patents according to the licensed agreements and agreements of patents subtractions that allow to get a reward and not carry expenses that are connected to the production of goods and providing services.

Basically, in the process of commercialization of innovations contingently we can emphasize the next stages:

1. Literate classification of OIP, and based on that the forward estimate of the market's price has to be formed.
2. Including project's cost of the nonmaterial assets into the enterprise's property structure on the accounting record "Nonmaterial assets".
3. Basically, commercializing of nonmaterial assets that includes:
 - Dynamic outcome of the enterprises to the market of innovational production;
 - Ability to find a customer for your idea or development;
 - Their high-skilled advertisement, including trade shows that will guarantee a protection of priority and newness;
 - Ability to appear in publications, without revealing the essence of OIP

In 2010 in the State Duma, the report has been presented by the vice-premier of Russian Federation regarding essential moves for using scientific achievements. Actualization of these moves included:

- Outlining main priorities in modernization of the country's economy that have been set up earlier by the President of the country;
- Creating a committee under the President, that's responsible for modernization and technological development of the country's economy;
- Forming a governmental committee, that's responsible for high technologies and innovations;
- Creating high technologies and education in the system of the Government Department of science;
- Creating an assembly of executive and main designers, leading scientists and specialists in the field of high technological sectors of economics;
- Project of the new Presidential decree about prioritized directions in the development of science, technologies and engineering in Russian Federation;

- Excepting “Conceptions of the long-term social-economical development of the country until 2020” and “Main working streams of the Russian Federation Government until 2012”, including actions about transferring the economy of the country to the innovational way of development.

This way the modernization of the Russian economy started from the “top”, based on the administrative decisions and possible increase of the financial range in the separate fields of the science and engineering. The first thing that came up was still unresolved questions that haven’t been mentioned in the indicated actions.

What part in the innovational development of the country the intellectual property has to play?

How to use effectively the competitive advantages of the intellectual property for producing competitive goods and modernization of the domestic economy?

Based on what prioritized fields and with usage of which recourses should we hold commercializing of intellectual property for achieving maximal social-economical effect?

In general, the questions of the economy of intellectual property in science are examined pretty poor. In examined fields of the economical sciences that have been recommended by VAK Ministry of Education and Science of Russian Federation, the economy of intellectual property theme is still missing. **A problem of commercialization of intellectual property, as the first key is in the innovative development of economics, can’t be solved just by the provisions from “above” without oncoming stream from the “bottom” from the side of business structures, and the most important, knowledge-intensive manufactures.** It makes a necessity to create conditions and government support for the companies that are oriented on the manufacturing and realization of the competitive goods based on usage of their legal protection.

From here you can see that responsibilities of the patent division and managerial control HIR and scientifically-productive companies include:

- Development of the thematic plans of innovative and inventive actions for solving main manufacturing problems.
- Exposing the needs of the specialists and perspective patents and patentable tasks in preparation to the material’s publications with the themes of the upcoming developments.
- Organization, training and consultations on how to use patent and patentable materials.
- Providing all of the leading workers of structured enterprises with necessary information that includes rationalized and inventive actions for making decisions, operative consideration and preparing conclusions and recommendations according to them.

- Organization of the expert analysis, experimental and laboratory-technical test for actualization and patent clearness of the innovative offers and inventions.
- Stimulation by using specific author's rewards, organization of the contests, reviewing assignments for attraction scientifically-technical creativity of the enterprise's personnel.
- Controlling the usage in the manufacturing of the inventions, industrial examples and innovative proposals, and keeping confidentiality.
- Consideration, systematization, organization of the priorities and calculation of the real potential marketing economical effect of the selected innovative proposals and inventions.
- Development of the proposals for patenting industrial property and control of the correctness of spending recourses on holding events for innovation and invention.
- Inventions registration, record management for the patent-licensed work.
- Saving finances of the enterprise through implementation of the innovative proposals and inventions. Creating separated channels of the outside and inside information.
- Cooperation with another research-and-development corporations and scientific-and-production enterprises.

For completing work that's connected with the development of the necessary documentation, creating calculations of the economical effectiveness for innovative proposal and its implementation, the planning department and bookkeeping are engaged, and along with them a specialized service has to be created and the specialists should be added for providing timely and qualified innovation of the events, described above.

Further we'll review the main general stages, basically implementing into the practice of actualization of innovations on the simpler example of "biologically-active food supplements", since the essential positions are the same.

Basically, the development of the product goes beyond the real work. But from the moment of getting authentic, positive and biological effect, a large amount of problems appear, that require system decision. Let's review several options.

Option 1. The necessary input products are made in sufficient amounts, with the proper quality and they are affordable for purchases at the market. In this case along with the process of registration of the product, strategy of pushing the product, the conception of the company's advertisement is forming in the board of supervision. At the same time, the new products appraisal is taking place.

The first result of this process has to include the title and brand licensing along with the

reflection of these nonmaterial assets on the balance of the enterprise, and also evaluation of the possibility of mixture's patenting, actions and way of using the product. If all of these positions are potentially protected by patent, at the moment when the documents will be submitted to RusPatent, it's important to understand if we need to get international patents in the future or the product will be limited by the inside market. It's important to sense that international licensing will imply expenses from several dozen to several thousands of dollars.

The next and the most important characteristic, that defines the future strategy, is a positioning the product. Biologically active additives (BAA) to food are formally additives to food, and as some representatives of the patrol organs understand it, something from the seasonings' family. That's why BAA promotion is restricted by the law as a therapeutic or health product. If created product is presented as a classic BAA, it can be manufactured at the standard equipment at any pharmaceutical factory, its future is defined only by the amount of investments into the advertizing and marketing and the most important by the specialists' advertizing talent and marketing people that are involved in the project.

Option 2. If the product has an expressed therapeutic effect, we need to have additional clinical tests for its effective promoting, that will approve its impact and safety. Then the clinical tests based on the protocols and requirements of the evidentiary medicine have to be performed to prove that it's not only working properly and effectively, but also that it's not contraindicated. Also the compatibility with the traditional medicine of this disease has to be checked. This kind of work requires time and significant means. The results of this work must be published in the prestigious scientific publications, and this will allow reaching several goals at the same time. First off, in the marketing materials you can refer to official publications that approve the effectiveness of BAA. Second off, the targeted audience is well-defined. Third off, availability of published results at least allows to decrease scepticism of the doctor's society. Finally, these results appear as a protection from possible legal prosecution. However, the complex of these actions pushes the project actualization away with terms from a year to several years and significantly makes the project more expensive. By doing so, as mentioned before, gained intellectual property that has been gained as a result of researches, is a valuable, marketable, nonmaterial asset and it requires protection – the possible solution for this could happen by applying it to the balance, as nonmaterial asset of the enterprise.

Option 3. The most difficult, longest and the most expensive option that we fully experienced on our own. When you need to get unique raw materials with specific characteristics for innovative product, you need to create productive capacities, meaning creating, at least the equipment, at the first level, and as a general rule creating a production facility or a small raw materials production. This kind

of enterprise belongs to low-tonnage chemistry and food industries at the same time, which causes large amounts of burdening that are connected to ecology, sanitary, safety etc. However, creating of this object is an actualization of the unique and therefore patent technology, should come to life along with issuing base data for projection. Patent or international patent's requests can't be submitted later, because having project's documentation in accordance with a large amount of authorities, can be a foundation in denial of issuing the patent because of the newness discredit. It will make sense to create this complex only when finished BAA will have unique consumer characteristics for the market, meaning having high therapeutic purposeful action. The whole complex of operations should take place automatically. Besides that we need a large individual safety confirmation operation of the manufactured raw materials and its registration as a nutrition product.

When reviewing the sizes if the investments in those 3 options, the second one will need several times more sources than the first one, and the third one – incomparably more than the first one. In that case a growth of the size of protected innovative intellectual property is obvious.

Patents and the title, brand sign and useful example fall into protection field in the first option. Sometimes it's possible to get a formulation patent, that's associated with an objective action. Besides that, the technological parcel appears, that contains product registration documents, technical terms and technological instructions. Sometimes the marketing strategy along with the advertising slogans gets registered. In order to keep track of such amount, the patent trustee has to be involved or the responsible employee from a leading company has to be assigned.

A second case has a cannon ball of protection – it's a patent that protects special qualities of the product. Additionally a scientific information case appears, that contains pre-clinical BAA results and random clinical trials. Intellectual property set is added to it, based on the first option. This is more individual product and it has a targeted auditorium of consumers. With the same amount of expenses, the same quality of advertisement and marketing, this kind of product will be more profitable in a shorter amount of time, than the one that's been promoted by the first option BAA. You can see clearly here the benefits of supporting innovating developments with a short implementation cycle. However, when this product is launched to the market successfully, it's going to become overgrown with generics that have sufficient legal differences. Unfortunately even the strongest protection of the intellectual property at the modern market will not be able to guard from this kind of production. As a rule, running such a large size will be done similar to the previous option.

The patents that protect a technology of receiving raw materials and components and their features appear in the third option. Project documentation, technological regulations, permissive components documentation, food safety data, technical terms for raw materials and components etc. are

added to it. Plus all of the documents and patents that have been described earlier. In order to accomplish this amount of work, as a rule, you need to create a personal patent-informational service for the enterprise. One of the most important tasks of this service is to participate in the contractual work. The number of enterprise's contacts with regulatory authority, research-and-development institutions, placing orders for specific equipment need a constant tracking of the confidentiality that's handed over to the informational partners, optimization of its sizes and monitoring priorities during contract works and after they are done. However, the creation of this innovative enterprise guarantees groundbreaking period of monopoly at the market to the investors that allows receiving more profitable revenue. Therefore, created scientific-technical and production base has a tendency to perfect inside of one project and simultaneously pushes creation of the line or specter of the new unique science-intensive production.

Actualization of such complicated project is impossible just with a group of enthusiasts, because it requires very large and longstanding capital investments. Unfortunately, we are almost fully lacking venture capital, and long-term credits are possible just upon the security and with high interest rates. That's why today it is possible to release these kinds of projects only when vendors find a direct investor that they can agree about financing and about mutual participation in the expected revenue. The government can and should play a significant part as partial investor, and as a source of targeted grants. Unfortunately, these kinds of partnerships with the government haven't yet materialized on any significant scale. However, "ECOMEDSERVICE" LLC is actively working in this direction, and it's trying to attract government financing based on terms of equal investment to create new knowledge-intensive enterprises.

Various aspects of technology implementations, useful examples of products, medicine etc. are subject to a number of regulations, most of which are available on the Internet.

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