Science and Innovation. 2014. V. 10. No. 1. P. 63—68

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PATENT RESEARCH AND ITS RELEVANCE FOR INNOVATION DEVELOPMENT

The patent research in accordance with the world standards, as well as with the standards of the Russian Federation and Ukraine has been considered. The dynamics of patent activities in the National Academy of Sciences of Ukraine are reported.

Key words: patenting, technical level, patent infringement, commercialization of innovations, innovative activities.

The patent research is used as an advanced highly effective analytical method for solving technical, marketing, and legal problems associated with the development and implementation of innovations and with situation on the market of R&D-based products.

The R&D activities are very important for country that has chosen the innovative path of development. The challenge is to accelerate the innovative processes, namely: the assessment of patent situation and patenting of R&D products at a high level of innovation. The patent research can be one of the most effective tools for the analysis of innovation market.

1. STANDARDIZATION OF PATENT RESEARCH IN UKRAINE

The national standards of Ukraine have been developed by government agency for standardization, namely, by the Committee of Ukraine for Standardization, Metrology, and Certification [1]. According to the Government Standard of Ukraine 3575-97 [2] the patent research is conducted to identify the patent situation regarding intellectual property objects for their further patenting. The patent research is also carried out when implementing the applied and the fundamental research aimed at obtaining applied or theoretical results.

1.1. The patent research can objectively assess the technical level and competitive ability of economic object, which is the basis for commercialization of pilot projects. According to GOST 3575-97 the patent research is required for economic entities operating in Ukraine who are fully or partially financed from the state budget. The patent research is carried out to identify patentability of know-how or engineering solution either developed on its own or used [3]. The final stage of patent research is the report on patent research.

Without analyzing the patent situation of economic object it is impossible to develop the business plan. The drafts and business plans must contain arguments in favor of novelty and industrial applicability of pilot project. The purpose of patent research is determined by the stages of life cycle of economic object. Particular attention is paid to the information on achieving the world-class level of engineering techniques, the assessment of patentability, and the situation with the use of property right on economic object.

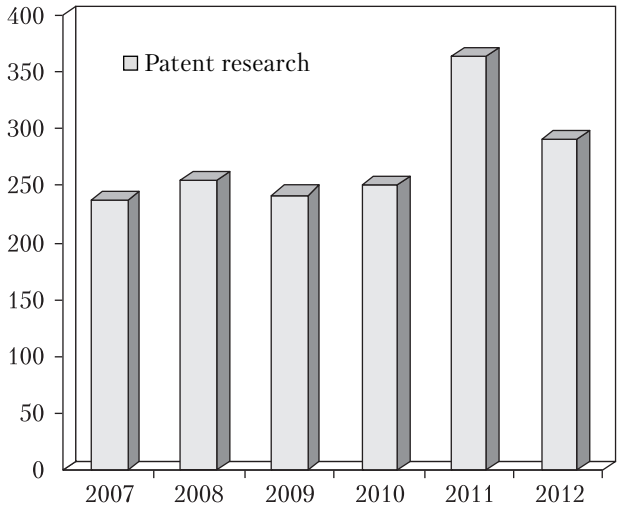

Fig. 1. Dynamics of patent research in the National Academy of Sciences of Ukraine

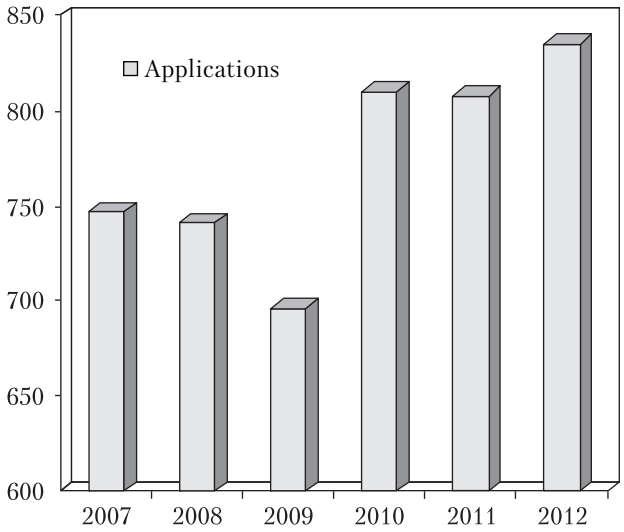

Fig. 2. Dynamics of applications for patents on utility model and on invention to the National Academy of Sciences of Ukraine

In Ukraine, the reorientation of applicants towards the applications for utility model has led to a decrease in the applications for invention. Having compared the number of patents in Ukraine and in other countries it is concluded that in Ukraine the number of patents on invention made by national applicants per 1 million of population is much smaller than in advanced economies. For example, in Ukraine this index is about 2-3 times lower than in Russia. The index of innovation activities in Ukraine, i.e. the use of inventions and utility models is also significantly lower than in advanced European countries. The patent of Ukraine for a utility model is issued after formal examination which does not check the object with respect to its novelty, i.e. it is issued under the applicant's responsibility. This simplifies the procedure for obtaining the patent, but devalues its quality. In this situation, the applicant may assume that it is not necessary to conduct a patent research, and it is not always carried out. This is a mistake. When applying for the patent for an invention the patent research to check the novelty of invention is necessary.

1.2. In order to determine the patent clearance of intellectual property objects there are used the patent information sources, namely, the official patent bulletin and official regulations, abstracts on the latest advances in science and engineering, which are likely associated with development of industrial products, as well as information on the status and prospects of product market development. It is very important to assess the world level and trends of know-how market development, as well as to conduct the marketing research. It is necessary for the successful marketing of industrial products in both the domestic and the foreign markets.

Upon the verification of patent clearance, in order to prevent the violation of rights of third parties holding the patents valid in Ukraine, the engineering object is analyzed and compared with the patented one. The result of these studies is a patent form made in accordance with GOST 3574-97 [4].

1.3. The activities related to the creation and protection of intellectual property rights is a priority for the National Academy of Sciences of Ukraine. The indices of inventive activities in the NAS of Ukraine are given on charts and diagrams: the number of patent research in Fig. 1; the number of applications for inventions and utility models in Fig. 2; and the number of licensing agreements and contracts for the use of intellec-

tual property rights and know-how in Fig. 3. The analysis of interrelated indices has showed their stability with a constant growth trend.

2. INTERNATIONAL STANDARDS AND REGULATIONS FOR THE PROTECTION OF INTELLECTUAL PROPERTY RIGHTS OBJECTS

The international and regional standards are adopted in accordance with international and regional organizations for standardization.

In particular, the standardization in Europe (regional standardization) is designed to meet the needs of the unified European market [5]. The national standards are valid only within the territory of state. The international standards are not mandatory for inclusion in the national system of standards. Each country decides on the adoption of national or regional standards in its

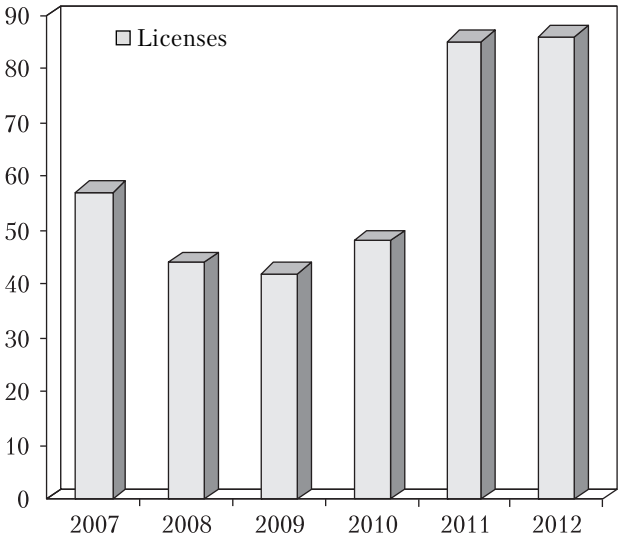

Fig. 3. Dynamics of licensing in the National Academy of Sciences of Ukraine

The standards of the World Intellectual Property Organization

	Group a. Standards of a general nature, common to information and documentation
ST.2	Manner for designating calendar dates (Standard presentation of calendar dates on published documents based on the Gregorian calendar)
ST.3	Two-letter codes for the representation of states, other entities and organizations
ST.13	Numbering of applications for IPRs (Guidelines on numbering the applications for patents, supplementary protection certificates (SPC), industrial designs, and topology of integrated circuits) (February 2008)
	Group b. Standards relating to Patent Information and Documentation
ST.1	Minimum data elements required to uniquely identify the patent document
ST.4	Standard for the use of two-letter country code on the front page of patent documents
ST.5	Standard abbreviation for the International Patent Classification
ST.6	Numbering of published patent documents
ST.7	Microforms
ST.7/A	8-up aperture card microform
ST.7/B	16 mm Roll Microfilm
ST.7/C	35 mm Roll Microfilm in 8-up configuration
ST.7/D	Method of identifying Roll Microfilm files
ST.7/E	Photo-optically generated microfiches
ST.7/F	Computer Output Microfiches (COM)
ST.8	IPC symbols on machine-readable records
ST.9	Bibliographic data on and relating to patents and SPCs
ST.10	Published patent documents
ST.10/A	Format of patent documents
ST.10/B	Layout of bibliographic data components
ST.10/C	Presentation of bibliographic data components
ST.10/D	Physical characteristics of patent documents, including reproducibility and readability

Continuation of the Table

ST.11	Minimum of indexes to be inserted in patent gazettes
ST.12	Preparation of abstracts of patent documents
ST.12/A	Abstracts of patent documents
ST.31	Character sets for the exchange of patent documents (Recommended standard character set for encoding to ensure exchange of patent document records in machine-readable form)
ST.32	Markup of patent documents using SGML (Standard Generalized Markup Language)
ST.33	Data exchange of facsimile information of patent documents
ST.34	Recording of application numbers in electronic form in order to ensure exchange of bibliographic data
ST.35	Data exchange of mixed-mode published patent information on MMMT (Recommended standard format for data exchange related to information of published patent documents in mixed mode on magnetic tape in the form of coils or of cartridge type IBM 3480 /90 (MMMT))
ST.36	Processing of patent information using XML (November 2007) — ST.36 Supplementary Material
ST.40	Facsimile images of patent documents available on CD-ROM
ST.50	Corrections, alterations and supplements relating to patent information (May 1998)
	Group c. Standards relating to Trademark Information and Documentation
ST.60	Bibliographic data relating to marks
ST.62	Standard abbreviation for Vienna Classification
ST.63	Content and layout of trademark gazettes
ST.64	Search files for trademark search
ST.66	Processing of trademark information using XML — ST.66 Appendices A, B, C, D, and E
	Group d. Standards relating to Industrial Design Information and Documentation
ST.80	Bibliographic data relating to industrial designs
ST.81	Content and layout of industrial designs gazettes
ST.86	Processing of industrial design information using XML (February 2008) — ST.86 Appendices A, B, C, D, and E

national standard system.

In the context of analysis of international regulations for the protection of intellectual property rights (IPR) it is necessary to explain how the international standards are important for the protection of IPR. The international legal standards are developed by international organizations or by other subjects of international law in the form of various international regulations. From the standpoint of legal force such standards may be either recommendatory or mandatory [6]. The regulations or rules elaborated on their basis to improve the mechanism of legal regulation of relations (particularly, in the area of intellectual property) are the international legal standards. The international legal standards [7] may be the doctrinal documents (e.g. the standard of the International Organization for Standardization ISO 3166 and standard ST.3 of the World Intellectual Property Organization; see Table).

3. STANDARDS OF THE RUSSIAN FEDERATION IN THE FIELD OF PROTECTION OF INTELLECTUAL PROPERTY OBJECTS

In the Russian Federation, the patent research is fully governed by GOST R.15.011-96 [8]. According to the RF Government Decree of January 23, 2004, no. 41 [9] and the orders of the state contracting authorities granted on the basis of projects recommended for consideration on the Meeting of the representatives of federal executive authorities, the public contracts should contain a paragraph according to which the contractor should conduct a patent research according to GOST R.15.011-96. In addition, the contractor shall ensure the protection of copyrights and

patent rights used in the execution of these works till the date of completion of R&D works. The recommendations related to reporting on patent research according to GOST R.15.011-96 have been elaborated in [10].

Compliance of the contracting authorities and the contractors with mandatory patent research requirement shall be verified by the Federal Service for Intellectual Property according to the Decree of RF Government of January 26, 2012, no. 9 [11].

When conducting the patent research with respect to patent clearance the experts use GOST R. 15.011-96 and GOST 15.012-84 [12]. According to those standards patentability is defined as the sum of signs of engineering and design solution necessary to establish its novelty and opportunities for industrial applicability.

The purpose of patent research is to choose the optimal ways to achieve the end result, to ensure its state-of-the-art level and novelty, insofar as for successful commercialization the competitive products are required. The patent research at all the stages of R&D allows one to obtain the reliable data on prospects and competitive ability of pilot projects at early stage of development.

CONCLUSIONS

The paper shows the main international regulations, as well as the documents of the Russian Federation and Ukraine regulating the patent research. The specific features of patent research in Ukraine have been analyzed and showed by the example of the National Academy of Sciences of Ukraine. The dynamics of patent activities in the National Academy of Sciences of Ukraine have been presented. As regards the institutions of NAS of Ukraine it should be noted that the indices of patent and innovation activities, as well as commercialization of pilot projects steadily grow in spite of the economic crisis.

The patent research and preparation of related reports are necessary inasmuch as when compiling them it is necessary to use the information about R&D products and techniques containing in patent documents and reports on research and development activities mainly given several years ahead of product implementation. For comparison, the brochures and abstract publications provide this information with a delay of 1—3 years, while the standards and technical specifications fix requirements to industrial-scale production with a delay of several more years.

The patent service agencies shall be responsible for assessing the performance level of new engineering products through the Patent Research Report which identifies the areas for further patenting of these products. Also, this applies to the licensing process based on the report on patent clearance of objects.

The researchers and developers have been recommended to conduct the patent search and to prepare the reports on patent research at all the stages of creation, design, and development of technical facilities, new materials, and know-how. This is especially important at the stage of forecasting and planning of studies for identifying the patterns and trends of development. Thus, the innovations and commercialization of innovative products can be managed on the basis of long-term public investment in innovation sphere.

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ПАТЕНТНІ ДОСЛІДЖЕННЯ, ЇХ АКТУАЛЬНІСТЬ НА ШЛЯХУ ІННОВАЦІЙНОГО РОЗВИТКУ

Розглянуто проведення патентних досліджень згідно з міжнародними стандартами, а також зі стандартами Російської Федерації та України. Показана динаміка патентної діяльності в Національній академії наук України.

Ключові слова: патентування, технічний рівень, патентна чистота, комерціалізація інновацій, інноваційна активність.

Т.Г. Косско, Т.М. Павлыго

ПАТЕНТНЫЕ ИССЛЕДОВАНИЯ, ИХ АКТУАЛЬНОСТЬ НА ПУТИ ИННОВАЦИОННОГО РАЗВИТИЯ

Рассмотрено проведение патентных исследований в соответствии с международными стандартами, стандартами Российской Федерации и Украины. Показана динамика патентной деятельности в Национальной академии наук Украины.

Ключевые слова: патентование, технический уровень, патентная чистота, коммерциализация инноваций, инновационная активность.

The paper was received on 09.09.13