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Fifty years of patent information centres in Russia

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A B S T R A C T

The article contains a brief historical review of developing patent information centres in the structure of the State Committee on Inventions and Discoveries (Rospatent) and their participation in establishing the national patent information system. The process is divided into three stages resulting from, first, changes in demands made by the new generations of users of information products and services and, second, renewal of methods, technologies and organizational forms of information support of innovation processes.

1. Introduction

In July 1960 the Soviet government established within the structure of the Committee on Inventions and Discoveries, the Central Bureau of Technical Information (CBTI) – the first specialized patent information agency in the country. In September 1962 CBTI formed the basis of a newly established Central Research and Development Institute of Patent Information (CNIIPI). In June 1980 the CNIIPI was renamed as the All-Union Research and Development Institute of Patent Information (VNIIPI), which was in October 1995 reorganized as The Information Editorial Center "Patent" (INIC).

This chain of official renaming reflects the stages of intensive work aimed at improving patent information support for scientific, technical and economic development of the country. These stages overlap initial development of centralized patent information processing at the CNIIPI; the VNIIPI activities, aimed at establishing the State Patent Information System; and, finally, INIC "Patent" mastering the market model of patent information support of innovation.

2. Developing the concept of centralized patent information processing

This stage coincided with the establishment of the CBTI. It was characterized by orienting patent information activity, mainly, towards the provision of patent examination with primary information sources. This strategy presupposed the availability of sufficiently complete collections of patent specifications, arranged according to patent classifications, and their use in a traditional library system. This demanded an urgent decision on two main tasks:

- to create, at the earliest possible date, initial patent information resources necessary for the development of inventing and patent-licensing activities in the country's scientific and industrial organizations;
- to develop and implement the scientifically well-founded concept of centralized processing and dissemination of patent information with the help of modern information technologies.

It seemed logical that the absence of telecommunications made it necessary, first of all, to move patent information resources as near as possible to end users, dispersed across the vast territory of the USSR. Therefore CNIIPI and the Publishing Enterprise "Patent" performed the gigantic task of microfilming the world patent collections and providing them with traditional reference and searching facilities (RSF).

As a result, already by the end of the 1970s, the country had over 5000 regional and industrial branch patent collections containing about 500 millions documents. Foreign specifications were arranged by national classifications. So it was necessary to translate them into Russian and supplement them with subject matter, name and other indexes. Moreover, the main part of the world patent collections were published in foreign languages. It was, therefore, decided at the CNIIPI to translate into Russian the abstracts or claims published in official bulletins of leading patent offices.

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Despite indisputable usefulness of these extraordinary measures, the CNIIPI personnel became increasingly aware of the need for a clear-cut concept for optimizing centralized processing of patent information with the use of modern technology. By this time the institute employed several hundred specialists to start research and development work in various directions. On the one hand, there were ambitious experimental systems for machine translation, automatic indexing and a number of rapid subject matter search systems; on the other hand there were rather utilitarian systems for automatic processing of bibliographic information about patent documents.

In the 1960s the CNIIPI scientists developed an experimental system to automatically translate publications from the USPTO Official Gazette. It was the first machine translation system specialized for processing patent texts: their segmentation, structural analysis of typical patent phrases and selection of Russian equivalents [1]. In parallel the institute developed an alternative automatic indexing system, based on an English-Russian thesaurus. This one translated into Russian only necessary search terms, simplifying the searching process of English texts [2]. Taking into consideration that information retrieval was the most important task for patent examiners; the CNIIPI took part in the international programme of developing a number of thematically profiled search systems [3]. Simultaneously the institute was investigating different variants of automatic processing of bibliographic information on inventions. This direction proved to be more promising; it covered world patent information more widely and ensured more diverse practical applications [4].

Investigations revealed that the global state of information theory and practice and existing technology, that was at our disposal, allowed practical realization of only those automatic systems that did not propose complex semantic analysis of documents and processing of large information bodies [5]. Reasoning from this, it was recommended to consider, as the primary goal, developing a system of multi-purpose automatic processing of current bibliographic data on patents gradually covering retrospective files. The realization of machine translation, automatic indexing and a complex of search systems with manual indexing was postponed.

In the middle of the 1960s the CNIIPI personnel concentrated a considerable part of their resources on the project for an automatic system for processing bibliographic data on inventions. It included sub-systems for processing current bibliographic data, issuing signal information on new inventions, its dissemination according to individual queries and accumulation of processed data in automatic RSF for the world patent collection, which would provide multifold patent search and comply with users' queries [6].

The project was positively received by the former CMEA (Council for Mutual Economic Assistance) countries and was adopted as the basis for developing a joint system named as "ASBA" (Automatic Reference Bibliographic Apparatus). The direct practical result of this project became apparent in international exchange of bibliographic data in a machine-readable form among the member states. Intensification of bibliographic information processing proved to be quite timely. It became known that BIRPI (United International Bureaux for the Protection of Intellectual Property, later reorganized into WIPO) in the middle of the 1960s also intended to carry out a similar project. The BIRPI Director General, Arpad Bogsch, visited Moscow to get acquainted with the ASBA project.

Parallel development of the WIPO international system radically facilitated the filling of the CNIIPI system with initial bibliographic data. From 1973 machine-readable bibliographic information from most countries arrived at CNIIPI from INPADOC in exchange for similar information from the former CMEA countries that concentrated at the CNIIPI. At the end of 1970 the newly constructed All-Union Magnetic Tape Service provided centralized dissemination of machine-readable patent information all over the country.

The appropriateness of the selected priorities was supported by the fact that - on the basis of the international exchange of machine-readable bibliographic and, later, abstract information – there were further developed at the CNIIPI (VNIIPI) systems for subject matter search, identifying patent families, determining their legal status and preparing patent publications and analytical materials on inventive activity all over the world [7].

3. Establishing the state patent information system

The development of patent information activity in the middle of the 1970s intensified orientation towards securing higher scientific and technical level and quality of industrial production by implementing effective inventions. In August of 1973 the government obliged the Committee on Inventions and Discoveries to carry out patent research concerning the most important problems of industrial development and assessment of their technical level. By this decision the activity of the Committee exceeded the narrow limits of departmental patent examination tasks.

The CNIIPI (VNIIPI) had to transform these directives into new patent information tasks. First of all, they raised the role of reference and search facilities from short-cut and generalized information, suitable for assessing technology trends in specific industry branches and leading to new technical decisions. Patent specification files ceased to be "labour tools" but were turned into a source for obtaining specific documents according to search results. All these facilities had to be put at the disposal of end users by mutual efforts of central, regional and industrial branch information bodies of the country. Therefore, in parallel with the developments in the first stage, it was necessary to bring to the forefront new researches, directed to preparing an organizational and methodological base for constructing an integrated patent information system across the country.

In March 1981 the Committee, reorganized by that time into the State Committee on Inventions and Discoveries, together with the State Committee on Science and Technology adopted the 5-year Programme of developing the State Patent Information System (GSPI). It was intended to unite the automatic system of centralized processing of the world patent information flow with the network of dozens of regional and hundreds of industrial branch patent collections dispersed over the country, supplied by modern search tools.

At the beginning of the 1980s the GSPI included, besides information bodies of the State Committee, 30 patent information services of regional scientific and technical information agencies with basic patent collections, about 50 patent information services of central industrial information bodies, 1200 information services of leading enterprises with patent files for industrial branches and actual technological problems. Besides this, patent collections were compiled at dozens of other regional centres and thousands of organizations and enterprises that participated in innovation projects [8]. One of the significant components of the GSPI – the All-Union Magnetic Tape Service – supplied all branches of the system with machine-readable RSF [9].

The formation and development of this vast network of patent collections and equipping it with searching facilities presupposed scientific substantiation of their rational distribution over the country. It was necessary to optimize their structure and composition, to determine the main characteristics of patent search tools etc [10]. With that end in view the VNIIPI scientists performed statistical research to substantiate the representation in patent files