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## PROBLEMS OF EVALUATING THE EFFECTIVENESS OF UNIVERSITY-TYPE TECHNOLOGY PARKS

### ПРОБЛЕМЫ ОЦЕНКИ ЭФФЕКТИВНОСТИ ДЕЯТЕЛЬНОСТИ ТЕХНОПАРКОВ УНИВЕРСИТЕТСКОГО ТИПА

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#### ABSTRACT

INNOVATIVE INFRASTRUCTURE,  
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EVALUATING EFFECTIVENESS, ANALYTICAL  
SUPPORT OF BUSINESS

*The article discusses the main problems that arise when evaluating the effectiveness of technology parks, based not only on the provision of commercial services, but also on the implementation of educational, scientific and research activities. The expediency of further studying these problems and finding ways to solve them is rationalized. The necessity of highlighting a separate direction for assessing the activities of a university-type industrial park - social, associated with its participation in the educational and scientific processes of the university is pointed out.*

#### АННОТАЦИЯ

ИННОВАЦИОННАЯ ИНФРАСТРУКТУРА,  
ТЕХНОПАРК, ПРОБЛЕМЫ ОЦЕНКИ ЭФФЕК-  
ТИВНОСТИ, АНАЛИТИЧЕСКОЕ ОБЕСПЕЧЕ-  
НИЕ БИЗНЕСА

*В статье рассматриваются основные проблемы, возникающие при оценке эффективности деятельности технологических парков, базирующихся не только на оказании коммерческих услуг, но и осуществлении образовательной, научной и исследовательской деятельности. Обоснована целесообразность дальнейшего изучения данных проблем и поиска путей их решений. Отмечена необходимость выделения отдельного направления оценки деятельности технопарка университетского типа – социального, связанного с его участием в образовательных и научных процессах университета.*

One of the main strategic development goals of the Republic of Belarus is the transition of the country's economy to an innovative type of development, which, in turn, requires the creation of a special infrastructure, the increase in the functioning efficiency of which is one of

the main levers for the development of small and medium-sized innovative entrepreneurship.

Based on national and foreign experience, we can conclude that the most promising and financially attractive subjects of innovation infrastructure are technology parks and technology transfer centers.

In accordance with the State Program for Innovative Development of the Republic of Belarus 2016–2020 the task is to ensure the activity of 19 technology parks by 2020, bring the number of technology park residents to 300 and create 1536 new jobs [1].

According to the data provided by the State Committee for Science and Technology, on the development of technology parks (table 1), we can conclude that there are positive trends in the main indicators of their performance.

**Table 1 – Development of technology parks 2014-2020**

Indicator	...	2014	...	2017	...	2020 (project)
The number of technology parks, units		12		14		19
The number of residents, units		84		133		300
Dynamics of job creation, units		125		493		1536
Dynamics of products manufactured by residents, thousand rubles (den.)		2,9		8,7		15
Including innovation, thousand rubles		1,97		5.91		10

Source: compiled from [1, 2]

Currently, there are 16 scientific and technological parks in the Republic of Belarus [2, 3], of which about 56 % have higher educational institutions as founders. Most of the technology parks among the services provided highlight educational events, programs, courses within the framework of innovative topics.

The study of national and foreign experience in the formation and functioning of technology parks allows us to define a university-type technology park as a special type of data for economic entities. The basis for such a statement is the fact that the activities of a university-type industrial park cannot be considered in isolation from its participation in the educational and scientific process of the founding university. Therefore, a differentiated approach is needed to evaluate the activities of technology parks created at universities and technology parks created by large commercial structures.

Today, theory and practice offer many approaches to assessing the effectiveness of the functioning of technology parks.

So, in the scientific article "Problems of Evaluating the Efficiency of Technoparks in Russia" [4], the author notes such key ones as the number of jobs created, the number of new

companies created, the number of companies located in the technopark, and so on.

Irina Prilutskaya in the scientific article "Problems of Evaluating the Effectiveness of the Functioning of Innovation Infrastructure" [5] identifies the following indicators: the number of patents received, the amount of financing, the number of completed projects, the number of scientists, the number of companies, and the realizable value of projects.

The Ministry of Finance of the Russian Federation, in order to characterize the detail of technology parks, identifies the following areas of analysis of their effectiveness: economics, human capital, regional development, technological development, organizational structure [6]. For each category, a number of characteristics are identified that can be used to establish the dynamics in the corresponding direction of activity.

The procedure for evaluating the effectiveness of technology parks, approved by the Department of Industry and Transport of the Voronezh Region [7], is based on blocks of indicators: general information about the technology park, information about the infrastructure of the technology park, information about innovative activities, information about payments to the budget, information about residents of the technology park.

Belarusian authors propose to supplement the system of performance indicators of the technopark with profitability and liquidity of the balance sheet [8].

A study of these and other approaches to assessing the effectiveness of technology parks enables to conclude that none of the developed methods covers such an area of activity of science and technology parks as educational. In our opinion, in order to fully characterize the effectiveness of the functioning of university-type technology parks, three blocks of indicators should be applied: economic (revenue, costs, investments, etc.), innovative (the number of patents and projects received, the number of innovative products sold, etc.) and social (characterizing participation of the technopark in the educational and scientific processes of the university). The choice of indicators of the latter block requires additional research and study of the opinions of various groups of stakeholders.

Any assessment of the activity of an economic entity is based on the availability of developed methods, indicators, and sufficient information support. Today, in connection with this, the most urgent problem in assessing the activities of a university-type industrial park is the development of analytical support that fully covers all the specifics of the activity, and is presented in the form of certain analytical procedures, information flows, a set of indicators that allow you to generate a final report on the technology park's activity, which will serve not only as a reporting form to higher bodies, but also as a reporting for the university, as well as a tool for attracting new residents and investors.

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