

Financing Instruments for the Development of Technoparks

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Abstract: The paper examines modern instruments for financing the development of technoparks and innovation infrastructure, as well as their role. Emphasis is placed on the need to foster a competitive venture capital environment, attract private capital, and develop crowdfunding within the framework of state programs for innovation potential development. It is shown that under conditions of limited budgetary resources, the diversification of funding sources and the creation of a comprehensive innovation support ecosystem become key factors for the sustainable development of technoparks.

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1 INTRODUCTION

The resolution of tasks related to innovative development of the region should be based on already established mechanisms and instruments of investment policy: existing legislative support for investment activities of domestic and foreign investors; mechanisms of state support for highly efficient and fast-payback projects, including a system of state guarantees.

The effective operation of technoparks, as evidenced by foreign experience, contributes to the growth of successful innovative projects and, consequently, to an increase in company profits, higher population incomes, and the development of regional and national industries. The creation of technoparks leads to an improvement in the entrepreneurial infrastructure, scientific and production potential of the locality where it is established, and helps reduce the degree of economic inequality among regions.

2 POLICY FRAMEWORK AND INCENTIVE INSTRUMENTS FOR TECHNOPARK DEVELOPMENT

At the same time, it is possible to use non-traditional measures in the field of commercialization of research and development results, such as:

- development of a venture investment system (off-budget financing of high-risk projects) in the scientific and technical sphere. State support for venture business is necessary until industry shows interest in it. It is also

advisable, in accordance with global practice, to allow non-state pension funds to invest in venture funds;

- development of a system of state and private insurance for innovation risks;

- establishment of insurance companies within financial-industrial groups that would assume the insurance of credit risks associated with the development of innovative products, thus sharing them with commercial banks;

- development and application of modern methods of engineering forecasting and marketing of high-tech products;

- development of small innovative businesses by creating favorable conditions and infrastructure for the establishment and operation of small enterprises;

- integration of intellectual property rights into economic circulation and ensuring reliable protection against unauthorized use.

The commercialization of R&D and innovative ideas is impossible without substantial financial resources. In post-industrial countries, the state acts as the primary investor in innovative projects. Uncertainty in state support and the legislative framework hinders the attraction of financial investments into innovation associations. In Belarus, special attention is paid to stimulating innovation and developing innovation infrastructure. Technoparks are developing dynamically in the country, and their residents produce high-tech products. The significance of technoparks in the development of the production sector is also positively assessed by the head of state [1].

From the perspective of industrial parks, the

implementation of incentive measures and the creation of innovation platforms to attract talent and other innovative resources are important ways through which parks contribute to innovation development. It has been suggested that knowledge flow, information exchange, and consequently knowledge management and the innovation ecosystem continuously foster the development of innovative activity. Furthermore, some scholars have studied the innovation potential, innovation efficiency, and innovation network of industrial parks. However, these studies have focused more on the form or outcome of innovation, and moreover, both scholars and practitioners have emphasized the attraction of innovation resources from outside the park or the division of labor and cooperation between the park and external regions, while relatively neglecting the development of innovation capacity within the park.

3 PERFORMANCE-BASED INCENTIVES AND FINANCIAL OUTCOMES

The system of state incentives to support innovation infrastructure includes tax breaks and rental concessions, as well as financing for the development of the material and technical base of innovation infrastructure entities from budgetary funds, noted Sergei Shlychkov. A system of tax incentives and preferences for technoparks has been established. Thus, current legislation provides for a system of tax benefits for the following taxes: profit tax – 10%, property tax – 0%, land tax – 0%, rental rate reduction coefficient – 0.1.

Based on the results of 2024, the amount of funds released as a result of the application of these benefits amounted to 24,867.0 thousand rubles, which is 1.2 times higher than the previous year's level. The increase in the volume of released funds is primarily due to the growth in tax benefits for property tax, land tax, as well as taxes and fees fully paid to local budgets (Table 1).

TABLE 1. VOLUME OF TAX BENEFITS GRANTED TO SCIENTIFIC AND TECHNOLOGICAL PARKS AND THEIR RESIDENTS IN 2020–2024

Types of Benefits	Amount of funds released, in thousands of rubles:				
	2020	2021	2022	2023	2024
1	2	3	4	5	6
Science and Technology Parks					
Corporate Income Tax	35,8	159,3	372,9	260,2	540,7
Real Estate Tax	200,7	1568,5	2025,9	5784,9	2555
Land Tax	82,0	732,3	1610,7	2531,9	2169,7
Profit Tax (in accordance with Part 11, Subsection 2.1 of Decree No.1)	3,5	15,3	-	-	67,9
Taxes and fees that are fully paid into the local budgets (in accordance with Article 4 of Decree No.1).	34,4	41,1	53,3	71,7	103,2
Residents					
Corporate Income Tax	1544,5	1184,6	2396,4	8957,3	16 957,2
Tax under the Simplified Tax System (in accordance with Part 11, Subparagraph 2.1 of Decree No.1)	294,1	154,5	-	272,8	342,9
Taxes and fees that are fully paid into the local budgets (in accordance with Article 4 of Decree No.1).	761,7	1323,0	2426,4	2633,8	2130,4
Total	2956,7	5178,6	8887,6	20 512,6	24 867,0

Source: [1].

At the same time, the dynamic development of innovation infrastructure has made it possible to significantly increase the volume of tax contributions from technopark residents to the state budget. In particular, while in 2016 residents of technoparks contributed 1.1 million rubles in profit tax, in 2024 this amount increased 17.6 times to 19.5 million rubles. In 2024, positive dynamics are observed in VAT (from 2.8 million rubles in 2016 to 20.4 million rubles in 2024), while the total volume of tax contributions from

residents in 2024 amounted to 76.5 million rubles. Overall, the volume of taxes, fees, and duties from technopark residents in 2016–2024 increased 12.9 times (from 6.6 million to 76.5 million rubles) [1].

4 VENTURE FINANCING AND BANKING INSTRUMENTS

The establishment of innovation funds for technoparks will provide Belarusian technoparks with their own (off-budget) financial resources to support innovative projects of technopark residents, as well as to upgrade the material and technical base of technoparks. This mechanism involves the formation of such funds from the revenues of resident organizations of technoparks. Residents are granted tax benefits on profit tax and tax under the simplified taxation system to the extent of their contributions to the technoparks' innovation development funds.

In Belarus, within the framework of the state program for innovative development for 2026–2030, the introduction of a venture financing mechanism using new instruments for structuring deals is envisaged. This provides for a set of measures to develop the national innovation system for 2026–2030.

Against this backdrop, venture financing appears to be perhaps the most realistic and promising mechanism for stimulating genuine innovation, although the domestic environment for venture capital remains insufficiently developed and fraught with obstacles. A detailed analysis of the weaknesses of the venture ecosystem allows us to identify several potential areas for reform [2].

First, the form and scope of state participation in the venture market require fundamental changes. Instead of trying to manage or directly control investment flows, the state should limit itself to creating favorable conditions and providing initial leverage to private venture funds. Since venture capital is by nature entrepreneurial risk capital, public funds should be concentrated primarily on the earliest stages of fund development, when uncertainty is highest and private actors are most reluctant to participate. This kind of catalytic role would stabilize the market, stimulate private interest, and attract broader attention to the sector without undermining its entrepreneurial character.

Second, a truly competitive venture environment must be created. State policy should not be limited to financial injections; its real goal should be to stimulate competition among all ecosystem participants – startups competing for funding, funds competing for high-potential projects, investors assessing risks, and service providers such as legal and marketing firms honing their expertise. Without a culture of competition, even significant state funding will not be able to ensure a sustainable and dynamic venture industry. On the contrary, competition pushes entrepreneurs to improve the quality of projects, thereby increasing both the volume and viability of innovative undertakings.

Finally, the chronic shortage of experienced venture capital managers must be addressed by drawing on global expertise. The Belarusian market could benefit from attracting foreign specialists with experience in managing

high-risk funds. This could be organized through direct contracts with private companies or through targeted state programs that subsidize their participation. It is important to note that these specialists should not be temporary consultants, but permanent participants capable of tracking local changes, mentoring local teams, and embedding practical know-how into the ecosystem.

To implement the venture financing mechanism in this area, the decree provides for the creation of draft regulatory legal acts with mechanisms for the formation, implementation, and financing of scientific and technical programs, as well as for assessing the effectiveness of research and development carried out using budgetary funds. Work in this direction has been entrusted to the State Committee on Science and Technology (SCST), customers of state scientific research programs, and the Ministry of Economy.

To ensure sustainable growth of services rendered (work performed), the SCST has been tasked with coordinating efforts to develop the material and technical base of innovation infrastructure entities, including through the attraction of extra-budgetary sources. It will also participate in ensuring the differentiation of funding volumes from innovation funds on a non-repayable basis, depending on the level of technologies being implemented and the use of domestic developments.

These recommendations are aimed at improving the venture financing mechanism itself. Such improvement measures can only be carried out with the active participation of both the state and business. In the current unfavorable macroeconomic environment and low interest in financial investments on the part of private investors, it is extremely important to address problems in the field of venture financing – the driver of innovative economic development [3, p. 11].

5 THE ROLE OF BANKING, CROWDFUNDING, AND INTERNAL INCENTIVES

Innovation financing is based on two interrelated elements: identifying potential sources of capital and ensuring their effective allocation. In most countries, commercial banks remain the backbone of this system, since their financial capabilities allow them not only to channel resources into high-tech initiatives, but also to coordinate the interests of various actors operating in the innovation and investment environment. International practice shows that banks, properly integrated into innovation policy, act as intermediaries, bringing together entrepreneurs, investors, and research institutes into a functioning ecosystem.

However, a closer look at the lending market reveals an alarming trend: the profitability of traditional credit products is steadily declining, making reliance on standard interest

margins less viable. Under these circumstances, banks face the need to refocus their attention on investment-oriented credit mechanisms. By developing innovation-oriented financial instruments, combined with enhanced customer support and strategic partnerships, they can play a central role in modernizing national economies, as well as contributing to the construction of advanced industrial facilities and socially significant infrastructure. A proven international instrument in this context is project finance, which has long been used abroad to implement capital-intensive, high-risk projects requiring long payback periods.

It is quite reasonable that the most ambitious and strategically significant enterprises, especially those associated with elevated risks, should be under the purview of development banks and state-backed institutions. For these organizations to operate effectively, their activities must be based on transparent standards: rigorous project assessment and selection procedures, clearly structured financial products, carefully designed risk management methods, and flexible yet reliable lending technologies. Such an approach entails long-term planning of credit policy in the innovation sphere, with periodic monitoring to eliminate inefficiencies and deviations.

Within the framework of public events, several types of advertising are practiced simultaneously: image-building, stimulating, and stabilizing. It should be taken into account that scientific and technical products differ from ordinary goods by their high degree of novelty and are presented in the form of scientific and technical documentation, materials, pilot batches, demonstration mock-ups, or working prototypes.

The development of crowdfunding as a viable channel for financing innovative projects requires a multi-faceted approach in which legislative, financial, and educational measures are closely interconnected. First and foremost, it is necessary to create a comprehensive regulatory and legal framework that will not only legitimize but also actively stimulate the growth of all segments of crowdfunding as an alternative financing mechanism for innovation. Without such a foundation, the sector risks remaining fragmented, under-regulated, and vulnerable to both abuse and investor distrust.

Finally, technopark enterprises should focus on reducing the costs associated with the active implementation of innovations. On the one hand, reducing innovation costs will help increase enterprises' motivation to innovate and thus stimulate their continuous innovative activity. On the other hand, in this situation, industrial parks tend to adopt a strategy of "internal incentives," which not only allows enterprises to directly receive more funds for innovation but also contributes to the formation of an effective mechanism for interaction between enterprises and industrial parks, thereby ensuring a mutually beneficial situation.

6 CONCLUSION

Taken together, improving banking products, legalizing new financing formats such as crowdinvesting, and more effective application of tax incentives can provide the multi-level financial support necessary to sustain innovative growth. In line with strategic national priorities, these measures not only reduce the risks inherent in high-tech development but also transform them into drivers of long-term economic competitiveness.

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