

STRATEGIC PRIORITIES FOR THE DEVELOPMENT OF THE BIOTECHNOLOGY SECTOR: DOMESTIC AND INTERNATIONAL EXPERIENCE

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Abstract. *The article examines approaches to interpreting the concept of "biotechnology" and considers the color classification of biotechnology industries. The trends in the development of the global and domestic biotechnology market are analyzed, in particular, the main performance indicators and strategic directions of their activities are studied using the example of domestic enterprises. It is substantiated that the key prospects for the development of the biotechnology sector are associated with improving the regulatory framework, strengthening the interaction of business, science and the state, attracting investments, developing such areas as cell research, tissue engineering and regeneration, creating an innovative ecosystem, forming biotechnology clusters and developing bioinformatics, which will facilitate the entry of Ukrainian companies into international markets and their integration into the global BioTech industry.*

Key words: *biotechnology, innovations, investments, color classification of biotechnology fields, strategy, SWOT analysis, financing.*

The study is devoted to current issues concerning the formation and implementation of a strategy for biotechnology development in Ukraine and worldwide, as well as the identification of the main problems and prospects for the development of the domestic biotechnology sector based on SWOT analysis. Statistical and comparative analysis form the methodological basis for identifying key challenges and prospects in the biotechnology sector.

The scientific novelty of the study lies in the conceptual generalization and theoretical and applied substantiation of the strategic directions of the transformation of the biotechnology sector of Ukraine in the context of European integration and development in wartime.

The article examines key approaches to interpreting the concept of "biotechnology" and systematizes the color classification of its application fields. Trends in the development of the global biotechnology market are analyzed, which is projected to grow from USD 1,491.5 billion in 2026 to USD 4,334.8 billion by 2034, demonstrating a compound annual growth rate (CAGR) of 14.3%. The regional structure of the market is investigated, where North America holds a leading position with a market share of 43.3% as of 2025. It is noted that the global market is characterized by the advancement of molecular biology, genetic engineering, and biochemistry, alongside favorable government initiatives.

It was found that Ukraine's positions on the global stage remain relatively weak:

according to the Biotechnology Innovation Index, the country ranks 53rd out of 54 studied nations. Despite the lack of unified national statistics, groups of leading companies have formed in Ukraine across several sectors: healthcare (Farmak, Smartcells, Yuria-Pharm), agribusiness (BTU Biotech, Biosens, Chemlaborreactiv), bioinformatics (Receptor.AI, Explogen, Deeptrait, Sysbio), and industrial processing (Enzym Group, Pro-Energy, S.Lab).

Special attention in the study is paid to the WINWIN Global Innovation Strategy through 2030. Strategic priorities for the development of the biotechnology market for the future have been identified, including cell-based research, tissue engineering and regeneration, and the creation of an innovative ecosystem.. A unique feature of the current domestic strategy is revealed—the deep integration of biotechnology into the defense sector. It is substantiated that the key prospects for the development of the biotechnology sector are associated with improving the regulatory framework, strengthening the interaction of business, science and the state, attracting investment, forming biotechnology clusters and developing bioinformatics, which will facilitate the entry of Ukrainian companies into international markets and their integration into the global BioTech industry.

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