

AP25794943 Development of an innovative management system for objects of the agro-industrial complex within the framework of the concept "Industry-5.0" with the introduction of artificial intelligence. sc.s. - Kernebaev A. S.

Project summary

The dynamic development of technology and the widespread use of digital innovations in the modern global economy are bringing revolutionary changes to various industries. In particular, the agricultural sector is being modernized in accordance with the concept of "Industry 5.0". This concept aims to enhance the interaction of production processes and technologies, where artificial intelligence (AI), robotics and human factor compatibility play a key role. The use of artificial intelligence capabilities in the agro-industrial complex is a new step in agricultural management and one of the most important strategic directions for the effective development of the industry. The agro-industrial complex of Kazakhstan is one of the main sectors of the country's economic development. There is a need to introduce innovative technologies in order to efficiently produce and sell domestic agricultural products on the domestic and foreign markets, as well as increase productivity. However, traditional methods in the field of agriculture cannot fully meet modern requirements, so it is important to improve the agricultural sector through digitalization and the introduction of management systems based on artificial intelligence. This project is aimed at developing an innovative management system for agro-industrial facilities using artificial intelligence. Artificial intelligence helps to increase farmers' production efficiency by automating and optimizing processes in the agricultural sector. In addition, it reduces risks by adapting to climatic conditions, forecasting yields and optimal planning of agricultural work. This study is aimed at determining the effectiveness of using artificial intelligence capabilities as part of the development of an innovative management system for the agro-industrial complex of Kazakhstan. The introduction of technologies based on artificial intelligence will contribute to raising the agro-industrial complex to a new level, achieving Sustainable Development Goals and increasing the competitiveness of Kazakhstan's agricultural sector at the international level.

The aim of the project is to develop innovative, scientifically based recommendations on the management system of Kazakhstan's agro-industrial complex using artificial intelligence technologies to increase efficiency, productivity and sustainable development within the framework of the Industry 5.0 concept.

Project objectives:

Stage 1, 2024. - research of an advanced model for the development of an innovative management system for agro-industrial facilities with the introduction of artificial intelligence from around the world;

Stage 2, 2025 - an analysis of long-term development with an assessment of the current state of management of agro-industrial facilities within the framework of the concept "Industry-5.0" with the introduction of artificial intelligence in Kazakhstan;

Stage 3, 2026-development of an empirical model for improving the management system of the agro-industrial complex within the framework of the concept "Industry-5.0" with the introduction of artificial intelligence.

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