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UDC 330

POPULAR HIGH-TECH SOLUTIONS IN THE AGRICULTURAL SECTOR OF UKRAINE

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According to studies, the percentage of penetration of high technologies into the agricultural sector is still quite low – about 10–12 % compared with world leaders – Australia, the USA, Israel, the Netherlands, Canada, where IT solutions in agriculture are used quite widely. Thus, 80 % of US farmers use information technology in some way in their activities. In Japan and South Korea, greenhouse climate control systems and remote monitoring systems are used, allowing farmers to control temperature, moisture levels and other indicators from a distance. In Germany, the use of information technology in agriculture has increased the yield by 30 %. At the same time, the cost of mineral fertilizers decreased by 30 %, and the cost of inhibitors by 50 % [1,2].

Now in Ukraine, solutions such as the introduction of precision farming systems, aerial photography to control the quality of crops, field history to select the optimal crop, laboratory soil tests to obtain information on the biochemical composition are popular on the agricultural market. These technologies increase yields and reduce production costs by reducing the cost of fuel, seeds and fertilizers.

GPS-tracking of equipment and control over fuel use are in extraordinary demand. Implementation of these systems makes it possible to monitor and automate the movement of equipment in real time, as well as control the consumption of each liter of fuel [3, 4]. Today, the main task of agricultural producers is to increase the productivity of agricultural products with the ability to compete not only in the domestic, but also in foreign markets. As part of the Concept for the Development of the Digital Economy and Society of Ukraine, the main goals of the digital development of the sectors of the country's economy, based on the use of digital technologies, are defined.

Thus, in order to develop agriculture, it is important to introduce digital farming - a fundamentally new management strategy based on the use of digital technologies, and a new stage in the development of the agrosphere associated with the use of geographic information systems, global positioning, on-board computers and smart equipment, as well as managerial and executive processes capable of differentiating methods of processing, applying fertilizers, chemical ameliorants and plant protection products.

The digitalization of the agricultural sector will also have a positive impact on the digitalization of rural infrastructure, in particular in terms of connecting villages to high-speed Internet. The low level of economic development in rural areas of Ukraine leads to the migration of rural youth to cities, high unemployment and low incomes of the rural population, the destruction of social and engineering infrastructure, etc. Therefore, the agro-industrial business is interested in using information technologies both in the field and among workers at home in order to improve the quality and conditions of life in rural areas, to achieve the highest social standards. The digitalization of farming and agriculture is, in particular, a tool for a large-scale program for the digitalization of villages, connecting them to digital infrastructures, overcoming the digital divide and the socio-economic revival of rural areas [5, 6].

Today in the world, all attention is paid to the problem of overpopulation and the possibility of providing them with natural resources. The agri-food sector is critical for employment and livelihoods. Russian experts in the field of agricultural development argue that any program of agricultural modernization should be aimed at solving the problem of feeding people. Comprehensive digitalization of agricultural production will allow farmers to reduce costs by 23 % [7].

Digitalization will change all parts of the agri-food chain. Resource management of any element of the system can be built on the principles of optimization, individual approach, reasonableness and predictability.

In the context of the Sustainable Development Goals, digital agriculture is able to deliver economic benefits by increasing productivity, spending efficiently and using market opportunities, social and cultural benefits by expanding communications and being more inclusive, by optimizing resource use and adapting to climate change. - environmental benefits.

However, for the implementation of digital agriculture, it is important to consider a number of factors:

1. The ability to use digital innovation depends on computer literacy and digital skills of staff.

2. The possibility of financial support for the introduction of digital agriculture, that is, the acquisition of the necessary equipment to obtain the desired results for the management of agricultural production.

3. The readiness of enterprises for internal transformations, which are inevitable due to the introduction of modern digital technologies, as well as the creation of new types of enterprises, which will be characterized by the use of digital technologies to improve operations, the development of new business models and interaction with customers and stakeholders.

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