



## FINDING SOLUTIONS TO PROBLEMS WITH IT (INFORMATION TECHNOLOGY) TECHNOLOGY IN AGRICULTURE

**Djurayev Ilhom Raimjon o'g'li**

3rd year student of Information Systems and Technologies, Faculty of  
Law and Tourism;

**Usmonov Abubakir Ismoiljon o'g'li**

1st-year student of the Faculty of Agrologistics and Business, majoring  
in business management;

**Rayimov Ubaydulla Muzaffar o'g'li**

1st year student of the Faculty of Law and Tourism, Department of  
Information Systems and Technologies;

**Murodullayev Isfandiyor Botirjon o'g'li**

1st-year student of the digital economy department of the Faculty of  
Agrologistics and Business;

<https://doi.org/10.5281/zenodo.10551174>

**Annotation:** Problems with IT technology in agriculture are of great importance to one another. Today, significant changes are being made in many industries and industries using IT technologies such as automation, data analytics, databases, IoT (internet of things) and a number of other fields. As an example, today IT technologies play an important role in water, safety and temperature control with the help of automated devices on farms. In addition, it is possible to find solutions around IT technologies to existing trucking, automobile management, water and energy consumption, product balance analysis and many other problems. This allows you to improve the IT knowledge and skills of industry personnel and develop innovative products in the industry.

**Keywords:** IoT, IT (Information Technology), automation, agribusiness, mobile phones, smart agriculture, internet, gadgets, digital technology.

**Аннотация:** Проблемы с IT-технологиями играют большую роль в сельском хозяйстве. Сегодня многие искусства и сети претерпевают значительные изменения в автоматизации, аналитике данных, базах данных, IoT (интернете вещей) и многих других областях, использующих IT-технологии. Сегодня, например, IT-технологии играют важную роль в управлении водой, безопасностью и температурой с помощью автоматизированных устройств на фермах. Кроме того, можно найти решения вокруг IT-технологий для транспортировки грузов, управления транспортными средствами, потребления воды и энергии, анализа товарных балансов и многих других проблем сельского хозяйства. Это позволяет сотрудникам компании совершенствовать свои знания и навыки в области ИТ, внедрять инновационные продукты на местах.

**Ключевые слова:** IoT, IT (информационные технологии), автоматизация, агробизнес, мобильные телефоны, интеллектуальное сельское хозяйство, интернет, гаджеты, цифровые технологии.

**Introduction:** Agriculture plays an important role in ensuring food security and achieving sustainable development in the world, and we all know that the stability of this network depends in many ways on the introduction of information and communication

technologies. With the help of digital technologies, sustainable development of society and the state in the social and economic spheres is expected. According to world statistics and future strategies, by the introduction of an innovative agricultural system in agriculture, you can provide more than 90-93% of the demand for the production of agricultural products by 2050-2060. Digital agriculture can be described as the application of digital technologies in agricultural value chains. Digital technologies, such as the Internet of things, sensors, drones, robotics, cloud computing, blockchain, artificial intelligence, decision-making support programs, are used in the optimization of agricultural production processes, value chains, agricultural systems, and management systems. In general, digital agriculture is seen as a promising area of food security for the ever-growing world population.

There is also its own important importance in data analytics and forecasting in agriculture. With data analytics, the ability to increase product consumption, resource efficiency and revenue will be increased. This allows you to lower the cost of products, effectively use resources, reduce waste and build in agriculture. IT technologies play a role in the development of society and the economy, and agriculture is entering a similar layer. This will enable the consistent implementation of solutions related to IT technologies in agriculture and the further development of the industry.

I should also mention that it is now the following modern problems.

- Degradation of the earth
- Low rates of industrial modernization
- Poor development of villages, lack of staff
- Unsatisfactory state of market infrastructure
- Financial uncertainty of the industry
- Failure of domestic production and dependence on imports

we're facing problems like this. We, on the other hand, have a solution to this, which involves connecting the necessary networks with modern technology and improving quality. This requires foreign experience and our own locality.

The use of technology makes it possible to carry out any process faster, more conveniently and efficiently. Thanks to the use of various innovative platforms in agriculture, not only the quantity of products, but also the quality, are improving. Why is it important to develop technology? may raise the question

The contribution of science, innovation and new technologies in the modern world is a crucial factor in social and economic development. With their help, the production volume and their diversity of products, goods and services is steadily increasing. Therefore, it is necessary to use modern technology. Here are some examples of technologies:

#### **Top 10 revolutionary technologies in agriculture**

- Use of drones in agriculture
- The use of geographic information systems and technologies
- Transport monitoring system
- Home-based Virtual System Formation
- Multispectral imaging
- Use of robots in agriculture, etc.



It should also be noted that in this area, our country's leader, Sha'drach, Me'shach and A-bed'ne-go, are not indifferent. That's why it's for the development of the industry PF-6079 of February 5, 2020 on measures taken by the President of the Republic of Uzbekistan to approve and implement the "Digital Uzbekistan 2030" strategy Order and "On measures to expand the digital economy and electronic government", April 28, 2020 decision. Accordingly, the Cabinet of Ministers also decides to improve the efficiency of the use of digital and geo-information technologies in agriculture and water management:

**Mark the following as the most important approaches to digitizing the agricultural sector of the Republic of Uzbekistan:**

Introduction of information systems for the efficient use of agricultural land, water resources and monitoring the state of crops;

transfer of services provided by organizations in the agribusiness complex, including public services, into full electronic form;

implementation of targeted projects on the basis of state-of-the-art partnership agreements for the introduction of modern information and communication technologies in the field of agriculture;

introduction of technologies for "online" control of the use of water resources in reservoirs and irrigation systems;

improving the water resource management system, accounting for water use and water consumption, and establishing a database;

To assist individuals desiring to benefit the worldwide work of Jehovah's Witnesses through some form of charitable giving, a brochure entitled Charitable Planning to Benefit Kingdom Service Worldwide has been prepared.

As we can see, only a few practical solutions can be made for several current problems related to digital technology in agriculture. For example, in many agricultural farms, the spread plays an important role. It plays an important role in ensuring crop tracking through digital technology and sensors. Such technologies help collect analytical data through automated systems, take into account air and water conditions, and optimize water consumption. Other problems include commenting on technological infrastructure, implementing integration between devices and systems, improving market balance, fundamentally viewing products, making payments to marketing and customers, improving economic management, and releasing product transportation and logistics, and digital technologies offer good solutions to solve strategic life-like problems that are harmonized in agriculture It is possible.



new business initiatives such as business models, new products and services. This has affected the performance and management of business processes in all networks. Obviously, the advantages of using digital technology are well-known and are widely used mainly in Big Data, the Internet of Items, Artificial Intelligence, Blockchain Unmanned Flight Apparatus, GPS, information and advisory mobile applications. Improved forms of agrobiznes supported

by IT technologies have enabled us to accomplish agricultural tasks faster and easier, save time and resources, and improve flexibility and efficiency in manufacturing processes. This is precisely why IT is an important reason to explore new, advanced capabilities of technology. Of course, there are also many advantages to the introduction of digital agriculture in Uzbekistan, where resources can be used wisely, improving productivity, and improving crop yields.

### References:

1. Walter A, Finger R, Huber R, Buchmann N (2017) Smart Farming is key to sustainable agricultural development. Work of the Academy of Sciences of the Republic of Uzbekistan USA 114 (24): 6148-6150. <https://doi.org/10.1073/pnas.1707462114>
2. Poppe K, Wolfert S, Verdouw C, Verwaart T (2013) information and communication technology as a driver for the change of Agri-food chains. EuroChoices 12(1):60-65.
3. Basso B, Ant J (2020) Digital Agriculture for Sustainable Agricultural Systems Design. Nat Sustain 3:254-256. <https://doi.org/10.1038/p41893>
4. Vartanova M.L. Ensuring the accelerated implementation of digital technologies in agriculture. 2019. T. 9. No. 3. 1949-1962.
5. Project of the Department of Digital Agriculture. URL: <https://mcx.gov.ru/>
6. Volobueva T.A. IT technologies in agriculture: prospects and usage problems. 2020. No. 8-4 (66). 193-196.
7. <https://lex.uz/docs/-5179198?ONDATE=05.04.2022>
8. <https://www.agro.uz/>
9. <https://staff.tiame.uz/>