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Solovyanenko N.I. Legal features of innovative (digital) entrepreneurship in the agricultural and food sector

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Abstract. Modern agricultural production and food trade are involved in the process of digital transformation, which is a cardinal factor of sustainable development and is carried out on the basis of IT platforms, the Internet of Things, cloud computing, big data, artificial intelligence, blockchain technologies. The COVID-19 pandemic has increased the dependence of these sectors of the economy on information and communication technology infrastructure and services. At the same time, the slow updating of legislation, which lags behind the constantly improving digital technologies, not only hinders their implementation, but also is a source of a number of social and legal problems. A modern regulatory framework based on digital strategies should strengthen "smart agriculture". In Russia, the legal mechanism of digital transformation and development of the national platform "Digital Agriculture" should be supported by updated basic legislation.

Keywords: sustainable development, food security, e-commerce, digital strategies, "smart agriculture", national platform "digital agriculture", legal regulation of digitalization of agriculture, information support in the field of agriculture.

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Introduction

In recent decades, agricultural production and food trade have been involved in the process of transition to a new technological order, which is characterized by the intensive development of digital innovations: electronic data interchange (EDI); digital platforms, the Internet of Things (IoT); cloud computing, big data, artificial intelligence and blockchain technologies. A significant increase of access to digital technologies is one of the key Goals stipulated in the UN global program «2030 Agenda for Sustainable Development», which states that the spread of information and communication technologies and the global

interconnection of networks provide huge opportunities to accelerate human progress, overcoming the digital divide. Digital technologies are at the heart of digital agriculture and are one of the most significant factors contributing to the achievement of the Sustainable Development Goals and Targets, which include, inter alia, «maintaining food security; rural development and the introduction of sustainable farming and fisheries practices; conservation and rational use of the planet's natural resources» [1;11; 13].

Digital technologies make it possible to collect and process a large amount of data in the field of agro-industrial production, which is analyzed by producers to use agricultural resources more accurately; adapt to weather and climatic conditions; automate repetitive functions; as well as more efficient accounting and administration. Digitalization of agriculture «allows you to control the full cycle of crop production or animal husbandry – «smart» devices measure and transmit the parameters of the soil, plants, and microclimate. Mobile applications and web tools help to determine the favorable time for planting or harvesting, calculate the fertilizer scheme, predict the harvest and much more»[16]. The «digital revolution» in agriculture makes it possible to connect all production processes to one large platform that allows you to collect, systematize and exchange information from farms and fields online and adjust work on production sites depending on the information received [12]. Mobile applications and web tools support the direct sale and delivery of agricultural products to consumers. The ability to exchange agricultural data can also increase the traceability of agricultural products.

Methods

For the purposes of the research, general and special scientific methods of system-structural analysis, ascent from the concrete to the abstract and from the abstract to the concrete, sociological and logical methods, methods of comparative jurisprudence, formal legal method, methodology of legal and legislative experiment, methods of socio-legal modeling were used.

Results and discussion

Scientific research shows the increasing dependence of various sectors of the economy on information and communication technology infrastructure and services, exacerbated by the COVID-19 pandemic. In the field of agro-industrial production and food trade, one of the most illustrative examples is the accelerated implementation of e-commerce during the pandemic, which includes tactless delivery of products to customers, which provides fewer personal contacts. Here are some examples. In response to COVID-19, Alibaba has scaled up local deliveries of fresh produce to Chinese consumers. It

adapted its online shopping site Taobao to provide deliveries in «one hour» with «hyperlocal fulfillment» including from SME retailers and independent chains. In India, Flipkart is growing fast during the COVID-19 crisis and developed a «hyperlocal delivery» grocery service linking SME suppliers with domestic supermarket chains like Vishal Mega Mart with its e-commerce operations. Malaysia-based MyFishman.com provides fresh seafood subscriptions and delivery services to local fishermen. Business associations and governments are also facilitating e-commerce during COVID-19. In China, the China Agricultural Wholesale Market Association began working with e-commerce and mobile chat groups to link suppliers and buyers. In Myanmar, the Myanmar Pulses, Beans & Sesame Seeds Merchants Association started an e-platform to link domestic suppliers and processors and exporters [2].

However, the digitalization of agricultural entrepreneurship and food trade is characterized not only by achievements, but also by specific social, economic, as well as legal problems and risks. Legal problems were identified related to the availability and accessibility of agricultural data, as well as the management of this data, including the right to extract value from it [14]. For example, improper use of data received from farms and their exchange can lead to unfair competition or disclosure of confidential information about farms, which can affect the cost of products or land plots. Detailed and complex contracts are concluded between farmers and suppliers of equipment and services, regulating relations, including in the field of management and security of agricultural data. When concluding contracts with such suppliers, farmers may be in an unequal position due to their lack of necessary information or technical literacy (for example, the terminology used in contracts may be extremely technological and difficult for small producers to understand) [7;9].

The «lockdown» caused by the pandemic also demonstrated that rural residents who do not use computer networks, "do not have sufficient competencies to retrain, are not mobile enough compared to urban residents", have become even more isolated and receive less support and opportunities [5].

Fragmented and unclear legal mechanisms constrain the willingness of farmers to use digital solutions. For example, they may not be able to protect the rights of individuals with respect to personal data, since agricultural data does not always fall under the definition of personal data. The improvement of legal regulation is slower than the development and implementation of digital technologies. As lawyers rightly point out, new ways of economic

interaction require new regulatory approaches. «Problems and risks should be assessed by specialists, ways to minimize them should be found, which, in turn, should be fixed in the legislation» [10]. In this regard, it is necessary to create a modern regulatory framework that will strengthen the confidence of stakeholders investing in « smart agriculture» and using its potential for growth and innovation of this sector. «The novelty does not consist in changing the essence of the law, its nature, but in enriching its content associated with the fundamental novelty of the means of transmitting information itself» [15]. Ensuring trust as one of the fundamental tasks of legal regulation of the digital economy is noted by both Russian and foreign researchers [3]. A legal mechanism should be developed to help overcome the «digital divide» in rural areas. The Roadmap for Digital Cooperation presented by the UN Secretary-General indicates that people should be united, respected and protected in the digital age. People working in agriculture, forestry and fisheries, living in remote and rural areas, should not be left behind [5]. As stated by economic and legal experts «Governments must take action and develop investment cases to support ubiquitous access to high-speed broadband, taking into account all the economic, social and environmental impacts. Priorities for investments are in bankable rural business models» [4].

Digital strategies, plans and roadmaps form the goals and objectives of legal regulation. Thus, the digital agriculture strategies developed within the framework of economic integration organizations and individual states imply the creation of a balanced digitalization management system and the adoption of appropriate regulatory legal acts in this area. The creation of a national e-agriculture strategy is an important initiative for any country planning to use information and communication technologies (ICTs) in agriculture. Any effective roadmap for e-agriculture will require a holistic, multi-pronged approach, as ICTs also stimulate the development of other sectors that are crucial for agriculture, namely banking, weather monitoring, land use, insurance, logistics and e-government.

In the European Union, the Digital Agenda for Europe (DAE) defines the key enabling role that the use of digital technologies should play in achieving the European Union's ambitious economic leadership goals. To ensure a fair, open and secure digital environment, the European Commission has adopted a Digital Single Market Strategy based on the following basic principles: ensuring better access of consumers and businesses to digital goods and services throughout Europe, creating appropriate conditions for the development of digital networks and services, and maximizing the growth

potential of the digital economy. The digital Single Market strategy defines the main economic and legal conditions for e-agriculture in the EU.

In the European Union, significant investments were made to promote large-scale pilot projects, including the creation of agricultural digital platforms that support innovation in the agricultural sector. Three pilot projects and one network of digital innovation centers received a total of 80 million euros for research and innovation in the field of digital technologies for the agricultural sector: IoF2020, DEMETER, ATLAS and SmartAgriHubs. IoF2020, which unites two ecosystems - agribusiness and advanced ICT providers, focuses on promoting the introduction of the Internet of Things (IoT) in the food industry and agriculture. IoF2020 (Internet of Food & Farm 2020) is a farming project focused on use in twenty-two EU member states, covering five different agricultural sectors: arable, dairy, fruit, vegetable and meat. It is focused on expanding use throughout Europe, as well as improving applications and introducing new technologies. ATLAS (Agricultural inTeroperabiLity & Analysis System) is developing an open digital service platform for agricultural applications, as well as creating a sustainable ecosystem for innovative data-based agriculture. The DEMETER project is focused on introducing new business opportunities into the agri-food economy and at the same time preserving the natural resources of Europe. The project demonstrates how an integrated approach to business modeling can support sustainable agriculture and food production systems, provide people with safe food and support farmers in their decision-making process [6].

In the Russian Federation, conceptual approaches to the creation of a national strategy for electronic (digital) agriculture, including a system of its regulation, are based on the provisions of the national program «Digital Economy of the Russian Federation», as well as the «Food Security Doctrine of the Russian Federation», approved by Presidential Decree No. 20 of January 21, 2020. The task of promoting high technologies and deploying digital platform solutions for the innovative transformation of the agro-industrial complex as one of the priority sectors of the Russian economy is set in accordance with Presidential Decree No. 204 of May 7, 2018 «On national goals and strategic objectives for the development of the Russian Federation for the period up to 2024».

The development of electronic (digital) agriculture is integrated into the legal mechanism of strategic planning. "Digital agriculture" is designated in such a strategic planning document as «The State Program for the development of agriculture and regulation of agricultural products, raw materials and food markets». By the Decree of the Government of the Russian Federation of March 31, 2020 N 375 changes were made to this state

program: the departmental project «Digital Agriculture» is included in the direction (subprogram) «Ensuring conditions for the development of the agro-industrial complex». The Digital Agriculture project provides for the use of high technologies in the production of agricultural products and food (the Internet of Things, robotics, artificial intelligence, big data analysis, e-commerce, the creation of an information system for collecting industry data «Single Window» and others). The basic elements of the Digital Agriculture project include:

- ✓ The Central Information and Analytical System of Agriculture - an information bank integrated with the information systems of the Ministry of Agriculture of Russia, The Federal State Statistics Service (Rosstat), the Federal Customs Service, The Federal Service for Hydrometeorology and Environmental Monitoring (Rosgidromet), for operational monitoring of the state and development of objects of the agricultural and industrial complex;
- ✓ Unified federal information system of agricultural lands, containing up-to-date information on agricultural lands, integrated with the databases of The Federal Service for State Registration, Cadastre and Cartography (Rosreestr) and **State Space Corporation (Roscosmos)**;
- ✓ an intelligent system of state support measures and a personal account of the subsidy recipient (including electronic identification of farmers in the Unified Identification and Authentication System (ESIA) and in the Unified Biometric System;
- ✓ application of the legal structure of a smart contract;
- ✓ The "Effective hectare", which will allow you to simulate the export flows of agricultural raw materials in real time, assumes an accurate forecast of yields and harvesting dates;
- ✓ electronic document management;
- ✓ scaling of domestic digital solutions for agricultural enterprises, such as: «Smart farm», «Smart field» and a number of others;
- ✓ electronic educational system «Land of Knowledge» [8].

To implement the digitalization of agriculture, in accordance with the order of the Ministry of Agriculture of the Russian Federation No. 84 of February 25, 2020, it is planned to create a national platform «Digital Agriculture».

The creation and commissioning of state information systems that are part of the Platform is carried out in accordance with the decree of the Government of the Russian Federation No. 365 of 24.05.2010 «On the coordination of measures for the use of

information and communication technologies in the activities of state bodies», as well as the decree of the Government of the Russian Federation No. 157 of 07.03.2008 «On the creation of a system of state information support in the field of agriculture». The state information system for collecting and analyzing industry data «Single Window» is designed as a source of input data for the national platform «Digital Agriculture».

At the ProAgroTalk 1.0 Forum: « A new technological way in agriculture. The experience of Italy and Russia» it was noted that effective digital agricultural production is already being implemented in pilot regions. The program combines high-tech international competencies in the field of education, the use of drones and nanosatellites, digital platforms for data collection, storage, processing and task management [12].

Conclusion

A modern regulatory framework based on digital strategies should strengthen the «smart agriculture». In Russia, the legal mechanism of digital transformation and development of the national platform "Digital Agriculture" should be supported by updated basic legislation. For example, the Civil Code of the Russian Federation is supplemented by Article 783.1, which fixes the characteristic features of the contract for the provision of services for the provision of information. Article 160 of the Civil Code of the Russian Federation states that the written form of a transaction is also considered to be observed if a person commits a transaction using electronic or other technical means that allow reproducing the contents of the transaction unchanged on a tangible medium, while the requirement for a signature is considered fulfilled if any method is used that allows to reliably determine the person who expressed his will. Article 309 of the Civil Code of the Russian Federation is supplemented by part two, which states that: « the terms of the transaction may provide for the fulfillment by the parties of the obligations arising from it upon the occurrence of certain circumstancesthrough the use of information technologies defined by the terms of the transaction». The updated federal law « On Electronic Signature» modifies the system of certification centers; defines the concept and develops a mechanism for using a trusted time stamp; provides for the possibility of using a «cloud» electronic signature; the legal structure of a trusted third party for internal and cross-border interaction has been introduced.

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