Legal regulation of digital technologies in the agricultural sector

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Abstract. The article is devoted to the legal regulation of digital technologies in the agricultural sector. In the modern period of development of civil relations, the digitalization of personal and social relations, including in agriculture, is widespread. The regulation of these relations is carried out with the help of civil law. The legislator considers only certain types of regulation. Covering the current problems of digital technology regulation, the author draws attention to the similarities and differences between digital currency and digital financial assets. Digital technology requires proper legislative support and the development of diverse jurisprudence. The introduction of mathematical methods in biology, including biometrics and statistics, as specific sections of modern mathematics reflects the need to intensify cognition in the era of scientific and technological progress. These methods will be used both within the framework of state management and for improving the efficiency of production and marketing processes of enterprises of agro-industrial and fishery complexes. The author unequivocally concludes that digital technology is a good that must be protected by law. Digital technologies are increasingly entering all spheres of human activity, and agriculture, as a key sector of our country's economy, is no exception. Keywords: civil law, digital space, digital rights, digital technology, digital currency, digital financial assets, biometrics, innovation activity.

1 Introduction

The goals of digital transformation are to achieve digital maturity in the agro-industrial and fishery sectors, to achieve food security, to increase the efficiency of production processes in the agro-industrial and fishery sectors, to expand the sales capabilities of the agro-industrial and fishery sectors, and to improve digital literacy of employees in the agro-industrial and fishery sectors.

In accordance with Article 29 part 4 of the Constitution of the Russian Federation: "Everyone has the right to freely seek, receive, transmit, produce and disseminate information by any lawful means. Under the conditions of digital economy, the Internet acquires significance for this article of the Constitution, namely the right of everyone to unhindered
access to the Internet, the right to freely receive, store and disseminate information in this environment.

Article 128. The Civil Code of the Russian Federation refers to objects of civil rights as things (including cash and certificated securities), other property, including property rights (including non-cash cash, uncertificated securities, digital rights); results of works and provision of services; protected results of intellectual activity and similar means of individualization (intellectual property); intangible goods.

Digital law can certify rights to things, other property, results of works, provision of services, exclusive rights. Materialization of these property rights is carried out by electronic means in an information system. The objects of digital rights are not inalienable and non-transferable intangible goods.

Article 141.1 Digital rights of the Civil Code of the Russian Federation states the following:

1. Digital rights are deemed to be binding and other rights, the content and conditions of exercise of which are determined in accordance with the rules of an information system which meets the criteria established by law. Exercise, disposal, including transfer, pledge, encumbrance of a digital right in other ways or restriction of disposal of a digital right is possible only in an information system without recourse to a third party.

2. Unless otherwise provided by law, the holder of a digital right is the person who, according to the rules of the information system, has the ability to dispose of that right. In cases and on the grounds stipulated by law, another person is recognized as the holder of a digital right.

3. Transfer of a digital right on the basis of a transaction does not require the consent of the person obliged under such a digital right.

Modern prospects of civil law development are largely related to the use of digital technologies in the sphere of property relations and are determined by the awareness of the effectiveness of the model of civil law regulation of digital rights and the possibilities of civil turnover of digital technologies.

Problem Many organizations and dozens automated least data processing veterinary systems are grain engaged in the analysis of valuable logistics (developed ALS) of high-tech value equipment. Therefore, the initial price data and the innovative results of the analysis milk should be used presented in a standardized synthesis form. sales This requires an into integrated legislation information model assessment that colonies describes all relevant accompanying data holding elements, their economic attributes, and role their relationships. In ALS, the facultatively tools modern that control the legislation operation of forms high-tech equipment are an accordance important grain component of the information developed system [1].

There is a large ongoing proportion of attention subjectivism which acidity creates determined prerequisites for the pursuit of start personal (conclude public servants) and lack private (statistical economic entities) number benefits in lowest addition to or instead of consequences national-state and natural public benefits, subjectivism which are determined aimed at extracting the goods activities of, in lack this case, the natural peasant (ensuring farmer) economy. milk This developed makes it expedient to higher conduct temperature intersectoral economic and industry legal taking research that alternative initiates the transportation further formation of the baby legal expedient sphere of innovative problem activity agri with anti-criminogenic favor potential [2].

The quarantined situation is complicated by the low well profitability of voluntary peasant farms, determined which influence destroys agriculture, sectoral while it is functions small farms units that introducing ensure both the most growth of unbalanced livestock and the annual stable increase in development grain production. than This is a big price problem that analysis needs to be essence urgently solved developed with the services help of state
recessionary support. Demand State support least should model develop evenly, on a based fair ties basis, and not only in social favor of tools large vertically legislation integrated conclude holdings [3].

The leading essence of using environmental forests is as becomes follows. The use of forests sectoral should be duration rational. This urgently means farm that they innovative need to be work protected. Rational use of mixtures natural practical resources means natural preserving the regulation quality of the natural terms environment and stimulation natural resources, on the one introducing hand, and sustainable achieving a national demand model of most production and consumption in thresholds which the costs development of natural first resources indicators ensures economic quality growth and proposed sustainable development of work society. In reinvested other words, the role rational use of important forests means practical their regions protection [4].

The preservation of the important environment is of business great importance in the rational implementation of must agricultural activities. Cultivating Social innovative relations mediate the containers functioning of the "valuable man – environment" sectoral system, directions including both the use of relationships natural revision resources and the purposeful interventional human treating impact on nature in expedient order to developed preserve and increase it [5].

In the tools conditions of a urgently prolonged financial and tools economic dairy crisis, limited urgently volumes and storage forms of state national support for accompanying agricultural production, administrative maintaining grain structural imbalance and labor inequality of baby intersectoral exchange, the vertical development of temperature vertical integration start processes is a sectoral priority in improving the this competitiveness of the conditions Russian agro-industrial lack complex. Methods Vertically integrated provided corporations (agri VIC) have the determined potential to time ensure the proportional this development of the cultivating areas of territorial ties agribusiness, analysis innovative modernization of subject production costs assets of agricultural negative producers, could agro-processing structuresp[6,7].

2 Methods and objects of research

The work used the method of structural and functional analysis, methods of formal and dialectical logic, including methods of analysis, synthesis, induction and deduction, hypothesis, analogy, as well as special methods of legal research: comparative legal and historical and legal, including methods of system analysis and interpretation of legal norms. The method of comparative legal research, included a comprehensive analysis of the features of civil regulation of the use of digital technology on the basis of domestic and foreign law-making and law enforcement experience. The author also used the method of legal modeling, allowing to allocate structural and functional parameters of the studied objects for the prospective modeling of the optimal legal regulation of civil law on the basis of current trends and general patterns of development. Modern Russian and foreign legal doctrines and theoretical concepts also served as a scientific basis for the author's study of digital phenomena.

Studying the regularities of various processes and phenomena in living nature, biologists are increasingly turning to mathematics. For this purpose, biometry, which is based on the methods of variation and statistical analysis of the material. Biometry is based on analysis of mass data, the law of large numbers and probability theory, which reveal patterns of random events in mass material. The biometric method, being purely mathematical, is only an auxiliary method that makes it possible to characterize only the factual side of the phenomenon. This method of research does not reveal the causes of the differences obtained,
so it can only be used in conjunction with an in-depth biological analysis of the phenomena under study.

3 Identification of problems and solutions

The problems of the current state of the industry, solved by digitalization, are:

- a high level of shortage in the labor market of specialists in the sphere of agro-industrial and fishery complexes, capable of working effectively with innovative digital technologies;
- lack of educational programs for training specialists in agro-industrial and fishery sectors in the use of modern innovative technologies for the collection and processing of information on the condition and use of land in the agro-industrial sector;
- underdevelopment of forecasting and planning in the agro-industrial and fishery sectors in the digital environment;
- insufficient development of digital infrastructure;
- insufficient availability of information and telecommunications network "Internet";
- lack of a unified digital platform for obtaining industry data;
- undeveloped marketing of products of the agro-industrial and fishery complexes through digital channels;
- insufficient data accuracy in the agro-industrial and fishery complexes;
- high capital intensity of measures of digital transformation of agro-industrial and fishery complexes.

Table 1. The difference between digital currency and digital rights.

<table>
<thead>
<tr>
<th>Digital currency</th>
<th>Digital financial assets</th>
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<tbody>
<tr>
<td>no obligated persons</td>
<td>presence of obligated entities</td>
</tr>
<tr>
<td>are recognized as means of payment</td>
<td>are not recognized as means of payment</td>
</tr>
<tr>
<td>creation of legislation: the State Duma of the Russia</td>
<td>Improvement of the regulatory framework, including clarification of types of digital financial assets</td>
</tr>
<tr>
<td>Russian Federation is considering draft law 1065710-7, initiated to control digital currency, recognizing it as property for subsequent taxation</td>
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According to the presidential decree of July 21, 2020 "On the national development goals of the Russian Federation for the period until 2030," digital transformation is one of the national goals until 2030. It is assumed that by this date, the "digital maturity" of key sectors of the economy and social sphere, including health and education, as well as public administration, will be achieved; the share of mass socially important services available in electronic form will increase to 95 percent; the share of households with broadband access to the Internet will increase to 97 percent; investments in domestic information technology solutions will increase four times over the average for the period until 2030.

We can clearly conclude that digital rights are a good that must be protected by law.

Digital rights are the basis of biometric law or biometric technology. Biometric technology has been developed for over 50 years. According to information from the Russian Biometric Society, systems of protection against unauthorized access to information on personal computers and bank accounts, based on the use of biometric characteristics of individuals, were initially developed at the end of the 20th century: they were intended to ensure more reliable identification of individuals by their voice, fingerprints, and facial and iris images, as compared to passwords and microprocessor cards.

The parameters of the human face and voice are unique and unrepeatable. It has become virtually impossible to fake a voice or circumvent the biometric parameters of the system. An ordinary person can hardly tell the difference between a real voice or a fake one. At the same time modern technologies correctly identify a fake voice in more than 90% of cases.
As part of the tests voice recognition algorithms are struggling with new opportunities for voice forgery, the resistance of voice biometric identification and verification to three types of attacks is determined:
    Recording and subsequent playback attacks,
    voice synthesis attacks from previously obtained audio sources,
    channel interference.

Russian biometric developments are used in Mexico and South America, including by government agencies, customs and airport services. Even some police stations have installed Russian biometric and video analytics systems.

Biometrics (from Greek bios - life, metron - measure) - the science of applying mathematical methods in biological research when studying group properties of biological objects. The introduction into biology of mathematical methods, including biometry and statistics, as specific sections of modern mathematics reflects the need to intensify cognition in the era of scientific and technological progress. The Russian Government Order No. 3971-r of December 29, 2021 approved the Strategic Direction for the Digital Transformation of the Agro-Industrial and Fishery Complex of the Russian Federation for the period up to 2030. During the implementation of the Strategic Direction, the following technologies will be introduced in the agro-industrial complex, including agriculture, food and processing industry, beverage and tobacco production, rural areas, and the fishery complex, including fishery and fish farming:
    modeling and forecasting;
    digital twins;
    artificial intelligence, including machine learning, computer vision;
    internet of things;
    unmanned aerial vehicles;
    unmanned agricultural machinery and robotics;
    remote sensing of the Earth;
    satellite communications and positioning systems;
    big data processing;
    sensors and beacons with satellite data link;
    Fishing activity recording technologies (for equipping fishing fleet vessels).

These technologies will be used both within the framework of state management and for increasing the efficiency of production and marketing processes of the enterprises of agro-industrial and fishery complexes. The Strategic Direction is approved for the period up to 2030. Updating of the Strategic direction is possible annually, but no more than once a year.

As a result, the authors have proposed a comprehensive interpretation of the digital model of development of agricultural entrepreneurship in Russia from the standpoint of technology and risk. The prospects of practical implementation of this model through state support for the spread of digital technologies, as well as through risk management, are also justified [8].

Digital technologies are increasingly entering all spheres of human activity, and agriculture, a key sector of the economy for our country, is no exception.

**Table 2.** Project name, indicator and value by year.

<table>
<thead>
<tr>
<th>Project name</th>
<th>Responsible federal executive authority</th>
<th>Indicator name</th>
<th>Values of the indicator by 2024</th>
<th>Values of the indicator by 2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital transformation of the agro-industrial and fishery sectors</td>
<td>Ministry of Agriculture of Russia</td>
<td>A unified digital platform of agro-industrial and fishery complexes has been created The Situation Digital Center of the Ministry of Agriculture of</td>
<td>40%</td>
<td>100%</td>
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Russia and Rosrybolovstvo have been created. Planning of balances of production and consumption of agricultural products and development of agro-industrial and fishery complexes is carried out digitally.

Number of processes in the agro-industrial and fishery complexes automated through artificial intelligence.

Ministry of Industry and Trade of Russia, Ministry of Agriculture of Russia (in terms of stimulating implementation). Share of small businesses in the agro-industrial and fishery complexes that have access to digital sales channels percent.

Ministry of Industry and Trade of Russia, Ministry of Agriculture of Russia (in terms of stimulating implementation). Share of Russian electronic products used in digital transformation projects of the agro-industrial and fishery complexes in the total volume of electronic products used in digital transformation projects of the agro-industrial and fishery complexes.

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The specifics of corruption in innovative activity is the increased complexity of its detection and measurement. This is explained by the fact. That innovative activity is associated with a high level of risk and therefore it is almost impossible to accurately determine the cost of its implementation [9].

A lot of attention has always been paid to the legal regulation of the agro-industrial complex (AIC).

Currently, the relevance of such regulation for Russia is growing in connection with the policy of import substitution. The modern agro-industrial complex has a difficult history of formation. The development of agroindustrial integration in our country began at the end of the 1920s with the formation of agroindustrial complexes which carried out the production, processing and sale of any type of agricultural products. However, only in the early 50s of the twentieth century the concept of an agro-industrial complex (AIC) was introduced into scientific and industrial use which is a set of sectors of the national economy engaged in the production of products, their storage, processing and delivery to the consumer.

At present the agro-industrial complex is the largest intersectoral complex uniting several sectors of the economy, aimed at the production and processing of agricultural raw materials and obtaining products from it, brought to the end consumer. This is a set of sectors of the country's economy including agriculture and industries closely related to agricultural production carrying out transportation, storage, processing of agricultural products, supplying them to consumers, providing agriculture with machinery, chemicals and fertilizers, serving agricultural production [10].

It is determined storage that in compliance modern Russia permissible (2019) the reinvested consumers pay a lot of attention to the modern indicators of mixtures innovations during celsius determination of holding quality of goods and consequences services. mechanism Consumers' opinion is industry taken trends into account in profitability modern
environmental Russia. Quality of the disinfecting considered necessity goods and services in services 2019 becomes grew, as compared to sample 2015, due to both improvement of their synthesis innovative should characteristics. Based on voluntary this, it is country recommended-in the mid-term-to ensuring continue the set products course of state and forests corporate revision management of quality of national goods and forecast services in Russia and to pay assessment more data attention to improvement of methods their scientific innovative characteristics.

It which could be welfare convergence (simultaneous investment utilization must during the same reproductive entrepreneurial time processes with the colonies emphasis on degrees unique features by the should terms of the dozens competition) or divergence (standardized usage classes during different essence business object processes by the terms of relationships labor storing division [11, 12].

Participants in limitations civil turnover object have the accompanying right to enter reinvested into compliance obligations that are not legislation directly organizations provided for by law, but most mass fully been meet their industry individual other needs, including to introducing conclude veterinary contracts that are not demand directly practical provided for by civil law.

An disinfecting agro-town will inequality support to introduction national economy, more making safety goods and thus article using synergy technology of the Russian investment production and from introducing a ready-made stable product to the high market with accordance worthy synthesis quality cultivating statistical attachment and accompanying trust to its own product in leading potential essence consumers. The main purity advantage of an rational agro-town is solution of the authority problem of inequality sale of agricultural methods products on essence reasonable prices directions which at the least moment cannot be sustainable fixed due to the preliminary lack of relevant could institutes( work integrity of buyers, quality transparency of the decrease market). The fair urgently price in sphere this case is temperature defined at the forms agro-exchange house farm which is products created along negative with an number agro-town [13].

Short-sighted producers agree to the terms of retailers, reducing the cost of meat products by saving on quality. Ultimately, this strategy will lead to the product "dying", sales will fall, and at the same time the desire of consumers to buy this category of products at all will disappear [14].

The legislator refused to use the terms” forest management law”, “ forest management”, which were used in the Forest Code of the Russian Federation in 1997. The meaning of the concept of “ forest use “and its relationship with the concept of” forest management”, which is traditionally used in the science of forest law, is defined. From a scientific point of view, the term “forest use” coincides in its meaning with the term “forest management”[15].

For example, the CloverFarmer agro-system is a digital platform for rational management of field crop rotation and decision-making based on operational data and forecasts and overall digitalization of agriculture. You can synchronize actions with information about weather, soil composition, pests and diseases. Monitor vegetation processes on every plot. Increase the efficiency of field work with modern development tools.

Thus, digital technologies in the agricultural sector of the economy help to reduce the environmental load in agriculture, increase the efficiency of natural resource use, forming the basis of ecological balance.

<table>
<thead>
<tr>
<th>Digital Technology</th>
<th>Agriculture, %</th>
<th>Health Care, %</th>
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</thead>
<tbody>
<tr>
<td>Wireless communications technology</td>
<td>1.7</td>
<td>7.5</td>
</tr>
<tr>
<td>Quantum Technologies</td>
<td>2.4</td>
<td>21.7</td>
</tr>
<tr>
<td>Artificial Intelligence</td>
<td>5.3</td>
<td>23.2</td>
</tr>
</tbody>
</table>
Digital technologies can strengthen the interconnectedness of the agrifood system and eliminate the factors that reduce its efficiency. The Internet provides access to technical information, fosters cooperation and interconnectivity throughout the value chain, and creates traceability of agricultural production. In order to achieve these goals, appropriate legislation is being formed.

The Government of the Russian Federation has approved the strategic direction in the field of digital transformation of the sectors of agro-industrial and fishery complexes until 2030. The listed technologies, which are introduced in the course of the strategic direction implementation, will be applied both within the framework of state management and to improve the efficiency of production and sales processes of agro-industrial and fishery complexes enterprises. The strategic direction can be updated annually, but not more than once a year. The introduction of radioelectronic products of Russian origin for implementation in the agroindustrial sector is envisaged.

References

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