

ABSTRACT
of the dissertation for the degree
of Doctor of Philosophy (PhD)

**«Legal regulation of commercial activities in the field of the use of space communications»
performed by Ishkibayeva Gulmira Maratovna on the basis of the Higher School of Law
and Economics of I. Zhansugurov Zhetysu University, specialty 6D030100 «Jurisprudence»**

Relevance of the research topic. President of Kazakhstan Kassym-Jomart Tokayev noted: «60 years ago, the era of human space exploration began. Yuri Gagarin's flight from the Baikonur cosmodrome has become a vivid symbol of the progress of world science. Kazakhstan will actively participate in international programs and master space technologies».

It is quite obvious that in all developed countries, space activities and the economy are developing in tandem. To date, commercial activity in space has become a large and rapidly growing field of activity, where technological skills and marketing skills combine efforts in the pursuit of profitability. Space trade has entered the mainstream of business and investment, and government policy towards this sector of activity continues to develop rapidly.

To date, space (satellite) communication has become a huge commercial success, and the reasons for this are clear. Communication is an integral part of almost all human activity, so better communication - faster, simpler, more accessible, more flexible, more extensive - is always a sought-after idea.

The advent of satellite communications had political and economic advantages that made success almost inevitable. Firstly, the demand for communications is universal. Secondly, most of the communication infrastructure, both physical and regulatory, has already been formed. As soon as satellites were launched and ground stations were built, it became an easy matter to connect them to existing networks, especially in developed countries, where a large number of customers were ready to take advantage of new services.

Our state, being a full-fledged member in the space market, having its own communication satellites of the «KazSat» series and the corresponding infrastructure to it, as well as functioning ground-based spacecraft control complexes in Akkol, Akmola region and the village of Bayserke, Almaty region, may well commercialize its space capabilities, thereby contributing to the economic growth of the country for the benefit of all the people.

The purpose and objectives of the dissertation research. The purpose of the dissertation work is a comprehensive study of the legal issues of commercial activity in the field of the use of space communications. To achieve this goal, the following tasks were defined: to determine the essence and content of commercial legal relations in the field of the use of space communications and to characterize their objects and subjects; to study the principles of legal regulation of commercial activities in the field of the use of space communications and to disclose their content; to investigate and identify the problems of legal regulation and insurance of space communications in the system of legislation of the Republic of Kazakhstan; to analyze the prospects for the development of space communications in the Republic of Kazakhstan; to investigate international legal mechanisms for commercial activities in the field of space communications and identify ways to improve them; to study the legal practice of foreign countries in the implementation of commercial activities in the field of space communications.

The object of the dissertation research. The object of the study is the legal relations that develop in the process of using space communications for commercial purposes.

The subject of the study. The subject of the study is the legal acts of the Republic of Kazakhstan, a set of international legal documents adopted within the framework of the UN regulating commercial activities in the field of the use of space communications.

The amount of elaboration of the topic and the theoretical basis of the study. The issues of commercial use of space communications in legal science are considered in the context of space activities in general, rather than in the framework of business law. It should be noted that

there are no works in the field of space (satellite) communication in domestic legal science. However, works in the field of space research and technology by V.D. Lefter, M. Manevich, M.M. Moldabekov, T.M. Musabayev, U.M. Sultangazin are presented, which consider the technical aspects of the issue under study. Meanwhile, the issues of commercialization of space technologies are noted in the works of CIS scientists - A.H. Abashidze, D.Y. Astapenko, O.A. Volynskaya, A.V. Didenko, G.P. Zhukov, A.M. Somov, M.V. Fomkina, M.R. Yuzbashyan.

The problems of commercialization of space activities are noted in the works of D. Nurmukhankyzy, S.M. Sylkina, E.M. Makayeva, D.U. Baitukayeva in which the most important problems are investigated – prospects and consequences (positive and negative) of the commercialization process; in the studies of Yu.V. Yerygin, O.V. Firulev, the analysis of various concepts of commercialization of space activities is carried out; in the works of M.Zh. Kulikpaeva widely discussed the issues of international space cooperation and the role of state bodies of the Republic of Kazakhstan in the implementation of such activities; the issues of space prospects and statehood are considered in the works of S.F. Udartsev; the issues of space activities of states within the framework of international space law are covered in the study of S.Zh. Aidarbayev; organizational and legal issues of cooperation between states in the field of space exploration were considered by such scientists as Zh.T. Sairambayeva; environmental safety issues in the implementation of space activities are noted in the studies of such scientists as D.L. Baideldinov, G.B. Kabanbayeva. It should be noted that the issues of commercialization of space technologies, including space communications, are closely related to the issues of economic activity and entrepreneurship. The most important contribution to the development of domestic legal science in the field of entrepreneurship was made by a number of scientists F.S. Karagusov, M.M. Moroz, I.V. Romankova, M.A. Sarsenbayeva, etc. In foreign literature there are studies devoted to this problem in the works of V.R. Chanson, D.B. Payson, R. Rugginger. In the works of such scientists of the Russian Federation as P.V. Antipina, H.O. Vorachek, V.V. Elkin, B.I. Puginsky, the issues of commercial law and the foundations of commercial activity and business are considered, the conclusions of which were taken into account when writing this dissertation.

Key provisions submitted for protection:

1. Commercial legal relations in the field of the use of space communications are social relations that have developed as a result of the development of space activities in general, expressed in the definition of specific rules of legal relations, with the importance of rights and obligations for each of the parties to the legal relations that are carried out with the use of space communications for the provision of satellite communication services. The peculiarity of such relations is due not only to their content, but also to the peculiarities of objects and subjects.

2. The principles of commercial legal relations in the field of the use of space communications are the guiding principles of legal relations in the field of the use of space communications, which serve as the basis for the mechanism of legal regulation of these relations. The peculiarity of the principles of commercial legal relations in the field of the use of space communications means is expressed in the fact that such activities include not only the principles of entrepreneurship, but also space and environmental law. As a result of the active development of space activities, it is advisable to introduce additional principles, for example, the principle of the development of public-private partnership in the provision of services using the results of space activities, the principle of the development and implementation of large-scale projects in the field of space activities in the interests of fundamental science, accelerated development of advanced space technologies, the creation of scientific-technical and technological potentials for future projects, and also to use the results of space activities in the interests of other sectors of the economy.

3. State-legal regulation of commercial activities in the field of the use of space communications is a complex activity of the state represented by its bodies that ensure the implementation of state policy in the field of regulation of space activities as a whole. To perform such functions in the field of the use of space communications, the State applies such methods of influencing such activities as: economic and legal methods. The implementation of these methods

of influence is carried out by adopting and (or) making amendments and (or) additions to legislative and by-laws. It is also possible to implement methods of influence through the implementation of economic and investment policy. The state, as a subject of space activity in general, occupies a central place in the field under study, implementing its state programs through authorized state bodies. Currently, the authorized body performing functions in the field of space activities is very complex and unstable. Global space processes are developing at a rapid pace, and a large ministry, whose functions include not only space issues, but also issues of digitalization and public services, is not able to respond effectively and, most importantly, quickly, including to the processes of development of the satellite communication system. The implementation of the first space programs of the Republic of Kazakhstan became possible as a result of the work of a separate Space Agency accountable to the President of the Republic of Kazakhstan. Ambitious space projects should be developed by trained qualified specialists, who should become the basis of an independent department. Moreover, earlier the issues of space activities of the Republic of Kazakhstan were considered within the framework of the Government of the Republic of Kazakhstan. The existing Space Council was a confirmation of the strategic orientation of the Republic of Kazakhstan in space issues.

An urgent issue should be the preparation of a strategic document defining the vision and direction of the state's activities in the development of not only space communications, but also space science and scientific technologies.

In addition, taking into account the enormous costs of voluntary insurance, it is proposed at the government level to develop a mechanism that determines the feasibility of carrying out insurance of spacecraft, taking into account their payback line. The implementation of such a mechanism would make it possible to direct funds not to insurance companies, but to new promising space projects.

4. The Republic of Kazakhstan has created and operates its own space communication system and the corresponding infrastructure for it. The KazSat series spacecraft and ground-based spacecraft control complexes in the city of Akkol, Akmola region and the village of Bayserke, Almaty region are the key to the implementation of space projects in the Republic of Kazakhstan and the commercialization of space activities in general. At the same time, almost all modern solutions are focused on a specific customer. In the center is the creation of value of consumed products and services, the payback of projects of a specific customer. This means that the satellite industry is undergoing an accelerated transition from the simple provision of a resource (moving away from the "raw" megahertz of a satellite resource) to managed services (megabits of transmitted data), i.e. from market capacity offers to generating processes that create the greatest value.

In this regard, it is advisable to revise the strategic development plans of the national space communications operator to create new products and services for the organization of broadband access to digital Internet services using satellite communication technologies within the framework of the National Project "Technological Breakthrough through digitalization, science and innovation".

For the development of geostationary space communications of the Republic of Kazakhstan, timely replacement of spacecraft of the "KazSat" series that have completed their service life is necessary. We note that the service life of the KazSat-2 spacecraft ends in 2026, and the KazSat-3 spacecraft ends in 2029.

At the same time, the implementation of promising KazSat projects is carried out taking into account the business factors affecting the FSS and the Broadcasting Satellite Service in the period under review (striving for higher bandwidth of communication channels, cost-effective use of frequency bandwidth, widespread introduction of IP-based services, availability and availability of ground-based operator satellite infrastructure, and etc.). and taking into account the characteristics of the plan for the protection and preservation of the OCR, declared by the RK in the ITU.

In addition, an important issue in the commercialization of space communications is the integration of JSC "RCCS" into international NGSO groups of satellite communications. At the same time, the use of satellite communications with the use of non-geostationary satellites in the Republic of Kazakhstan is possible only after the completion of work on the legislative regulation of the work of the NGSO.

5. International legal mechanisms for regulating commercial activities in the field of the use of space communications are a set of international legal mechanisms and methods that promote cooperation between States in the field of the use of outer space for the use of space communications in order to carry out commercial activities, taking into account environmental requirements. The analysis of international documents made it possible to identify agreements directly affecting aspects of satellite communications (operation). Thus, in general, the activity of commercial exploration of space communications is based on several general agreements adopted by the UN, UN resolutions and provisions of international organizations. The provisions of these main documents address the use of satellite communications as the most developed branch of international space law. In the current perspective, the general treaties adopted by the UN are certainly the most important. However, it is obvious that with increasing complexity, the expansion and influence of satellite communications in the modern world, as well as the set of legal norms applicable to it, are due to a growing variety of sources. In this regard, the updating of the main documents related to the activities on the use of outer space for commercial purposes, not only by States, but also by private organizations, requires further detailed study. The priority in the direction of international legal regulation should be to ensure a balance of economic interests of all parties.

The study of the issues of legal regulation of commercial activities in the field of the use of space communications in foreign countries showed which normative legal acts were adopted in foreign countries for the commercialization of space communications, in which direction the legal basis of this activity is moving today. The issues of legal regulation of commercial activities in the field of the use of space communications are considered in the context of the development of space activities as a whole. It should be noted that advanced states in the field of space activities have long ago adopted the law "On the commercialization of space activities", which defines the basics of doing business in the context of space activities, the legal status of objects and subjects of these legal relations, and also establishes the basic principles of commercial activities in the field of space.

Approbation of the results of the study. Within the framework of the research topic, 7 research publications have been published in foreign and Kazakh publications, of which: 2 articles - in reports at international scientific and practical conferences (Italy), 4 articles – in journals recommended by the Committee for Quality Assurance in Education of the Ministry of Science and Higher Education of the Republic of Kazakhstan, as well as 1 article - in the international journal Electronic Security and Digital Forensics, part of the international database of Scopus (Percentile 83).

The dissertation work was prepared and discussed on the basis of the Higher School of Law and Economics of Zhetysu University named after I. Zhansugurov.

The structure of the dissertation research. The dissertation consists of notations and abbreviations, normative references, an introduction, the main part set out in three sections consisting of ten subsections, a conclusion, a list of sources used and one appendix.