

ПРАВОВОЕ РЕГУЛИРОВАНИЕ КОСМИЧЕСКОЙ ДЕЯТЕЛЬНОСТИ

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ПОДХОДЫ К ВОЗМОЖНОЙ МОДЕЛИ РЕГУЛИРОВАНИЯ ДОБЫЧИ КОСМИЧЕСКИХ РЕСУРСОВ / APPROACHES TO A POSSIBLE MODEL FOR SPACE RESOURCES MINING REGULATIONS

Аннотация: Статья вносит вклад в дискуссии о создании возможной правовой модели регулирования деятельности по разведке, добыче и использованию космических ресурсов. Показано, что нахождение способа должного урегулирования сферы добычи космических ископаемых не является чисто юридической проблемой. Прежде всего, это проблема поиска международного консенсуса в части выбора модели принципиальной системы, в рамках которой будет развиваться деятельность по добыче космических ресурсов. Анализ актуальных дискуссий показывает, что юридическая теория не способна предложить правовую модель, которая была бы равным образом поддержана всеми странами ООН. В сегодняшнем контексте, было бы полезнее начать с поиска практических решений, которые большинство стран ООН посчитали бы политически честными и экономически эффективными. Авторы отмечают практическую полезность расширения контекста, в котором происходит анализ проблем, связанных с регулированием добычи космических ресурсов. В статье формулируются некоторые условия для достижения консенсуса, а также предложения по возможным практическим решениям. В частности, предлагается обсудить идею о возможности сбалансировать шаги по либерализации экономической деятельности в космическом пространстве принятием норм, которые юридически обяжут компании, занимающиеся добычей космических ресурсов, выделять определенную долю прибыли от этой деятельности на развитие возможностей космических исследований для развивающихся стран.

Ключевые слова: Космическое право; Космическая политика; Космическая экономика; ООН; UNOOSA; Космические ресурсы; Частная космическая деятельность; Освоение космоса; Правовая модель; «Мягкое право».

Abstract. *The co-authors present their ideas to contribute to the UNOOSA discussions on a possible legal model of regulating the space resources exploration, exploitation, and utilization.*

It is shown that finding modalities to regulate the field of space resources mining properly is not a purely legal problem. It is a problem of seeking the international consensus for choosing an operating model the Space resources mining activities will develop within. The analysis of current discussions marks that the legal philosophy cannot be able to propose the legal model which would be endorsed by all UN countries. In today's context, it would be more useful to start with the search for workable solutions which most of UN countries will consider as politically fair and economically efficient ones.

The authors note the practical benefit of analysis the issues of space resources regulations from different perspectives (e.g., economic, technological, philosophical, legal, etc.) and give some modalities for a consensus to find as well as proposals for action.

In particular, the authors suggest for discussion the proposal to balance the potential permission to perform the freedom of economic activity in Outer Space by the legally binding norms requiring bodies involved in the space resources mining to allocate a certain share of the profits from this activity to develop space exploration opportunities for the non-space countries (e.g., to channel through some specialized UN's body or Fund).

Keywords: *Space Law; Space Policy; Space Economy; UN; UNOOSA; Space Resources; Commercial Space Activity; Space Exploration; Legal Model; Soft Law.*

Foreword

The analysis of recent national legal novelties (The U.S. Commercial Space Launch Competitiveness Act of 2015 [1], Luxembourg Space Resources Act of 2017 [2]) and related experts debates mark the growing dissonance between the pace of law-making processes at the international level and the new urgent needs of space activities demanding for legal solutions that can adequately respond to them.

Many incentives accelerate the development of international space law. Among them we can note challenges and threats to the safety of space operations; issues of security and long-term sustainability of outer space activities; risks of the weaponization of space; problems of space debris mitigation; needs to establish the rules for space traffic; and many other issues pending.

However, we believe that the most creative transformation of international space law is strongly driven by economic needs, first of all, by the commercialization of space activities. Suffice it to recall that the first national act, prompted by the need to commercialize space activities, came long before the adoption of the Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space (December 1963), as well as the United Nation Outer Space Treaty (1967), established the basis of international space law. We are talking about the US Communications Satellite Act, signed by President John F. Kennedy 31 August 1962 [3].

The issues of regulation of the exploitation of space resources: the impact on international space law

Today one of the most active drivers of space law updating is the demand for developing and negotiating a legal model of regulating the space resources exploration, exploitation, and utilization. The commercialization of space resources mining has raised the issue of developing practical (legal, institutional, political) instruments that could equally ensure the implementation of two essential principles, formally in conflict, - the justice in the sharing of the Space Benefits and the freedom to perform economic activities (in Outer Space as in Earth). This circumstance intensifies the discussions of the feasibility of revising and modernization the basic United Nations Treaties and Principles on Outer Space.

The positions of the experts debating on the fate of the fundamental United Nations Treaties and Principles on Outer Space are traditionally fluctuating between the three approaches: 'revisionist,' 'protective,' and 'moderate.' The enlarging the supporters of revisiting of the UN Treaties on Outer Space inevitably leads to an increase in conservative and moderate sentiments. The countries that are not leaders in space activities are rightly assuming that the liberalization of international space law will increase the gains of space nations and further lag of developing countries [4]. Adherents of the 'moderate approach' insist on the preservation of the inviolability of the UN Treaties on Outer Space and propose to use the 'soft law' (first of all, non-legally binding instruments) to resolve legal uncertainties found in those treaties [5] as well as to regulate new fields of space activities that not be foreseen fifty years ago.

These debates increased markedly since the adoption of the above-mentioned national laws of the United States and Luxembourg guaranteeing the private ownership of extracted space resources. Although the experts are expressing the sharply opposite evaluation opinions about these acts [6-11], they agree that the 1967 Outer Space Treaty, in its literal interpretation, is not capable of giving an unambiguous and definitive answer to the questions posed in the field of private extraction of space resources [12-14].

Moreover, already in the 1970s, experts warned that this document could not help solve the doctrinal and legal problems associated with the application of the principle of freedom of exploration and use in the Outer Space, since it does not contain applicable clear rules [15]. That is why 'today space lawyers are spending an awful lot of time debating what, exactly, that means,' [16] in a rapidly changing socio-economic context.

Another argument in favor of the updating of the five basic United Nations Treaties on Outer Space is the emergence of new risks and threats to security in outer space. So not surprising, some the UNOOSA members say about necessity 'to reach an agreement on updating the existing legal framework on outer space in order to ensure peace and security and to meet the challenges associated with the rapid development of space activities, which could not have been foreseen at the time when the five United Nations treaties were negotiated' [17].

In particular, the Russian Federation links the prospects for the further development of international space law with the issues of ensuring space security and is developing an initiative to prepare and adopt 'a full-fledged set of guidelines to ensure long-term sustainability of outer space activities, providing clear and diverse regulatory functions with actual beneficial effect on safety of space operations'[18].

These and other issues, which are essential for the development of international cooperation in exploration and use of Outer Space, require the equal attention of lawyers. Therefore, it is quite challenging to arrange the problems awaiting legal solution in order of priority. However, it is evident that the demands of ensuring space security will always have a priority status to the needs of commercial space exploration.

However, it is clear that the delay by the international community in addressing the issue of the permissibility of private ownership of space resources is fraught with negative consequences.

First, it is unlikely to stop the further adoption of national acts similar to the laws of the United States and Luxembourg, especially in the context of increasing of technological capabilities in space exploration and growth in the number of competitive private players in the global space economy. The number of States willing to recognize private ownership of space resources will increase with the growth of evidence of the beneficial effects of such laws on national economic development and innovation.

Secondly, if countries keep adopting national acts approving private ownership of space resources without waiting for or contrary to the final verdict of the international community, this process will devalue the idea of the inviolability of the principles of existing international space law and will discredit the status of the relevant UN institutions and bodies. De-facto and de-jure, this process is similar to the "parade of sovereignty" of the Soviet republics 1986-1991, which led to the fall of the USSR.

Thirdly, the prohibition of private ownership of the extracted space resources is unlikely to create equal and fair conditions for all countries in space exploration (or rather, is unlikely to "slow down" the development of space powers and give favorable opportunities for developing countries). Moreover, such a ban and conflicts associated with its expected

violations will lead to an increase in threats to the security of activities in outer space.

Thus, the creating the general principles and regulating the space resources exploration, exploitation, and utilization is, if not a priority, so one of the most urgent issues to resolve at the international level.

Aspects influencing the designing of a valid legal model

How to design a legal model for space resources mining that would not constrain the development of space activities and at the same time would not violate the basic principles of space exploration 'for the benefit and in the interests of all mankind?

We believe finding modalities to regulate this political and economic field properly is not a purely legal problem. First and foremost, it is a problem of seeking the international consensus for choosing a functional model (with a set of incentives and restrictions) under which the Space resources mining activities will develop. It is evident that designing of such functional model, describing various actions, processes, operations, principles of managing and controlling, is a subject more of international politics and economics than law. In this context, we consider the legal theory alone cannot be able to propose the creative solution, which would be endorsed by all United Nations countries. The fast-changing world turns upside down the long-established algorithms and procedures of lawmaking. It seems that today the broad legal and philosophical ideas and principles have to subordinate to the 'practical solutions,' especially if most of the United Nations countries will believe these solutions are fair and efficient ones.

The seeking the proper solution requires 'the helicopter view' to see all facets of the issue and to take into account the interests of all stakeholders. So, the search for consensus forces to consider the problem of space resources mining regulations not only in legal frames but also from political, economic, philosophical, ethical, and many other perspectives. For example, it is useful to explore and discuss the following aspects given designing the solution.

(1) Economic impact

The Space, the space activities, and space technologies (including spin-off ones) are considered as one of the boosters for economic and social progress [19]. For example, the European Commission has

declared space both a strategic asset and enormous opportunity for European society and economy [20]. China 'has embraced its space program as a driver of economic growth and technological advancement that can help change its economy from a low-cost manufacturer to a high-tech competitor' [21]. Of \$329 billion of global spending on space activity in 2016, nearly 38% was generated by commercial space products and services and 38% by commercial infrastructure and support industries [22]. So the demand on the legal incentives for fostering the space economy and innovations is very high.

Today, the space law is not a separate field but an integral part of the national economic and innovation policies. So the proper balance of legal incentives and restrictions designed at the global level affects the pace and trends of the space activities' growth at the national level directly.

Also, it would be useful to monitor all national legal novelties in the Space resources mining regulations and their impact on the economy. For example, the deputy prime minister of Luxembourg Etienne Schneider said that Luxembourg's Space Resources Initiative allowed to generate in 2016 almost 2% of GDP from the space industry [23]. In 2015, before the introducing new legislation, this rate was zero.

(2) Technical capabilities for space resources exploration, exploitation and utilization

It is evident that the general rules governing the extraction and use of space resources should be in place before the first successful commercial experience of such activities in space we will see. Therefore, the monitoring of technologies is essential for understanding when the space resource mining would be possible in practice? The space law and the space technologies have to synchronize watches. We need to know how much time we have to develop discussed legislation before the first case of exploration of space resources will demand it for practical use.

(3) Shared philosophical doctrines to design a model for space resources exploration, exploitation, and utilization

The lack of shared understanding of the broad theoretic terms and the philosophy behind them causes the difficulties in creating the functional model and implementing mechanisms.

What philosophical ideas the international community should to choose as a 'starting point?' How to create a just and equitable international order for the space resources mining which duly takes into account the interests and needs of all mankind, the prospective interests of the economically developed countries, as well as the special needs of developing countries?

We believe that re-clarifying of the legal meaning of the broad philosophical concepts and terms the international space law operates has practical importance for their adequate reception into the national space legislation. First and foremost, the legal phenomena of 'benefit of all mankind,' 'interests of all mankind,' 'common heritage of mankind' have to be operationalized.

Also, it would be useful to design the measurable indicators help to prove that a particular national space body or private company acts in Outer Space "for the benefit and in the interests of all mankind."

(4) Approaches to a potential legal model

The main challenge is to find an effective legal model which will meet two conditions: (a) not to hinder the development of economic activities for the exploration, exploitation, and utilization of space resources; (b) not to violate the principles of space exploration 'for the benefit and in the interests of all mankind.'

We see the concept of the 'soft law' as one of the most promising instrument to provide the adequate balance between the sustainability and creative development of the international space law. This concept implements now in two ways. One is the using of the non-legally binding United Nation instruments and applying their principles in the national legislation. Another way is presented by the bilateral (multilateral) agreements and the national legislation regulating not only separate issues but new areas of space activities which not been foreseen by the creators of the fundamental principles and norms of international space law.

Also, it seems to be fair to ensure freedom of economic activity in Outer Space in exchange for the commitment of bodies involved in the space resources mining to allocate a certain share of the profits from this activity to a specialized UN Fund established to develop space exploration opportunities for all mankind.

Concluding remark

Any implemented technologies that change people's lives (including space technologies) reflect the values, goals, and beliefs of their creators and users. Genuine breakthrough innovations and even more so 'disruptive' ones directly affect the fields that are far from a world of pure technologies: they can lead to a change in the existing values, beliefs, and expectations or they arise as a result of such dramatic change.

This conclusion also applies to technologies aimed at the space resources exploration, exploitation, and utilization. Development of such technologies (and especially the achievement of a real possibility of extracting space resources in economically significant amounts) inevitably leads to test the strength and viability of the system of principles and theoretical postulates of international space law established in the historical context of 1960-1980 as well as the shared and conflicted values, beliefs, and expectations of 'all mankind'.

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