

# SPACE STATE: POSSIBLE OPTIONS FOR FORMING

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## **Abstract**

The article emphasizes the role, which the space activity plays at the present stage of the evolution of the human civilization and the inevitability of its activation over the next 10-15 years. Space-related elements emerge along with others in the structure and functions of a modern developed country. Besides, the scientific, economic, military and other values of its space activity are increasing. In the 21<sup>st</sup> century, the emerging states are gradually turning into one space state that coordinates and organizes not only the activity on the Earth, but the public and private activities far beyond the planet, in outer space too. Some pivotal countries have already reached the phase of this historical development of statehood. The article addresses main options of the formation of a space state: natural (nation-states and their alliances, mixed — a complex planetary state) and artificial which is exemplified for the last several years by the emerging of unrecognized space kingdom, Asgardia. Hypothetically, it is also possible that the speed of the establishment and evolution of the space state and its forms can depend on the external influence coming from outer space. The options of enshrining the character of the state activity, i.e. its cosmic status, politically and legally (by means of declarations, laws, constitutions, etc.), are also considered. The author thinks that this global and irreversible trend of the formation of space statehood should be taken into account both in the political and legal doctrine and in political perspectives, long-term and middle term strategic documents and modern state development programs.

**Keywords:** evolution of a state, space activity, space law, a space state, formation of a space state, ways of a space state formation, natural and artificial ways of a space state formation, internal and external impact on a space state formation.

For many centuries, humanity has had only theoretical ideas about the existence of life in space and a space state.<sup>1</sup> However, in the middle of the 20<sup>th</sup> century, the

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<sup>1</sup> See: Udartsev S. F., *Istoriia politicheskikh i pravovykh uchenij. Drevnij Vostok: Akademicheskij kurs.* [The History of Political and Legal Theories. Ancient East: an Academic Course.] Publishing House of St. Petersburg University. Law Faculty of the St. Petersburg University.

technological progress was at such a level that allowed the humankind to explore space, and in the 21<sup>st</sup> century, we started to create a space infrastructure of a state<sup>2</sup> that was a beginning for the formation of the space statehood.

The pivotal countries in space-related activities — the US, Russia, People's Republic of China, India, the EU, Japan, etc. — intend to increase their activity in this field.

### **Increase of space activity of a modern state.**

#### **The concept of “statehood” in space.**

Modern states increase their space activity by competing among themselves. At present, no state can be competitive without being involved in space exploration as far as telecommunication, navigation of land, maritime, and air transport as well as rescue work in distant regions, probing and photographing of the Earth required for agriculture to measure land, forecasting the weather and global environment changes, defense and security, etc. directly depend on it.

With regard to the certain backlog of international space law that developed within the 1960s and 1980s and the existence of gaps in it, in the 20<sup>th</sup> century many countries promote national space law that springs up in other branches of law and creates, all together, its own cross-sectoral sub-system inside the national law. More than 30 countries currently have operational specific framework national laws or other legal-and-regulatory acts about space activity.<sup>3</sup> In 2007, 20 countries were

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2007. — 664 p.; S. F. Udartsev, *Ideia kosmicheskogo gosudarstva v istorii politicheskoy mysli// Pravo i politika [The Idea of a Cosmic State in the History of Political Thought// Law and Politics]*, No. 8, 2012, pp. 1386 — 1398. On the Publisher's website: [http://nbpublish.com/view\\_post\\_368.html](http://nbpublish.com/view_post_368.html) (January 23, 2019); S. F. Udartsev, *A Cosmic State: Forming and Development the Idea in the History of Thought// SENTENTIA. European Journal of Humanities and Social Sciences*. 2014. No. 1, pp. 37 — 50. DOI: 10.7256/1339-3057.2014.1.11412; the article has also been published in English in another journal, see: S. F. Udartsev, *A Cosmic State: Forming and Developing the Idea in the History of Thought// Law and Politics*. 2014. No. 4, pp. 548–561. DOI: 10.7256/1811-9018.2014.4.11415.

<sup>2</sup> See: S. F. Udartsev, *Gosudarstvo, pravo i kosmicheskaya deiatel'nost' // Sotsiologiya prava: kurs lektij: v 2-h tomakh. [The State, Law and Economic Activities// Sociology of Law: a Course of Lectures: in two volumes] V. 2 / edit. by M. N. Marchenko. M.: Prospekt, 2015, 344 p. pp. 307–338.*

<sup>3</sup> See: E. S. Tabanbaeva, *Formirovanie natsional'nogo zakonodatel'stva o kosmicheskoy deiatel'nosti v zarubezhnykh stranakh// Pravo i gosudarstvo [Forming National Legislation on Space Activities in Foreign Countries// Law and State] 2017. No. 3 — 4, p. 172. Retrieved from Magazine's online version: <http://km.kazguu.kz/uploads/files/15.%20%D0%A2%D0%B0%D0%B1%D0%B0%D0%BD%D0%B1%D0%B0%D0%B5%D0%B2%D0%B0%20%D0%90.%D0%A1.%20%D0%A1.%20169-185..pdf> (January 23, 2019).*

active participants in space industry and more than 120 countries were involved in its developing. In 2012, 40 countries already had their own spacecrafts.<sup>4</sup> At present, there are over 50 foreign space agencies and international organizations around the world.<sup>5</sup> In 2016, the US and CNR, for the first time in several decades, surpassed Russia in the number of annual space launches (22, 22 and 19 launches a year respectively).<sup>6</sup>

Space activity is of great significance for ensuring the security for the country as a whole and the defense, in particular. Russia, the US, and China have currently formed space troops.<sup>7</sup> To be an active participant in space industry is an indispensable part of resources in any strong state. As previously noted, “the modern statehood is undergoing a specific transformation owing to a new level of military and technical strength, expanding the space for activity, using new information technology management... A state as a phenomenon is taking new forms, gains new resources to develop social forces and resources, to maintain order and apply legally based coercion for addressing challenges at the national, supranational, and global levels... A state continues transitioning out at the planetary level and in outer space. At the same time, new factors related to the onset of the fourth Industrial Revolution appear that accelerate this process”<sup>8</sup>

Overall trends in the evolution of statehood in the context of the evolution of the human civilization suggest that one of the natural elements of the modern strong state is the formation of the infrastructure, its participation in space industry and efficient management of this technology-intensive, costly, but promising area.

The deceleration of the space activity<sup>9</sup> starts to be replaced by a new momentum. By the end of 2020s — the first half of 2030s, experts predict another boom of

<sup>4</sup> See: *Ibid.* p. 169.

<sup>5</sup> See: *The List of Space Agencies // Wikipedia*. URL: <https://ru.wikipedia.org/> (December 4, 2018).

<sup>6</sup> See: *The List of Space Launches // Ibid.* (December 4, 2018).

<sup>7</sup> See: Udartsev S. F., *Sil'noe pravovoe gosudarstvo i novye vyzovy bezopasnosti: voprosy teorii// Gosudarstvo i pravo [A Strong Legal State and New Challenges to Security: Theoretical Issues// State and Law]*, 2018. No. 1 — 2, pp. 15 — 20. Retrieved from Magazine's online version: <http://km.kazguu.kz/uploads/files/1.%20%D0%A3%D0%B4%D0%B0%D1%80%D1%86%D0%B5%D0%B2%20%D0%A1.%D0%A4.%204-22.pdf> (January 23, 2019).

<sup>8</sup> Udartsev S. F., *Sil'noe gosudarstvo: voprosy teorii// Gosudarstvo i pravo [A Strong State: Theoretical Questions // State and Law]* 2016, No. 2 (71), p. 13. Retrieved from Magazine's online version: <http://km.kazguu.kz/uploads/files/1.%20%D0%A3%D0%B4%D0%B0%D1%80%D1%86%D0%B5%D0%B2%20%D0%A1.%D0%A4.%20D1%81.%206-14.pdf> (January 23, 2019).

<sup>9</sup> On the problems of current space activity, see: S. V. Krichevskij, *Kosmicheskoe budushee cheloveka i chelovechestva: problemy i perspektivy // Filosofskie nauki [The Cosmic Future of*

competitive space activity, when cumulative knowledge, new techniques and technologies, considerable international expertise in the space activity will be realized in the new drive made by the humanity desiring to fall beyond the achieved space horizons. By that time, perhaps for the first time, humanity can also establish a basis for exploration and extract minerals on the Moon, asteroid, and other celestial bodies, whose natural wealth far surpasses the resources of our planet. The arrangements for completing the formation and the expansion of international law on issues relating to exploration, extraction, and utilization of space resources are being actively pursued. The international Hague Working Group created at the end of 2014 started actively to work on the issues relating to the management of space resources.<sup>10</sup> It is also important to note that the existing gaps in international space law started to be filled in by national space legislation.<sup>11</sup>

It seems that those countries that will not be ready to a new “cold rush” (space) and therefore will be unable to participate in it, to receive dividends, to lose competitiveness, and to be completely out of the running. The countdown has begun.

Modern states have created and are improving their space techniques and technologies, are conducting multidimensional scientific exploration of space and human vital activity in it, are forming space industry and telecommunication on the Earth, are launching and exploiting spacecrafts, international space stations. They create and equip military space forces, conclude treaties on the issues relating to space, form national space law, etc. In fact, the developed countries, especially pivotal countries, have already ventured into space, started their space industry in a variety of areas, and they will continue to develop and improve their space activity.

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a Man and Mankind: Problems and Perspectives// Philosophical Issues — Russian Journal of Philosophical Sciences]. 2013. No. 9, pp. 38–43.

<sup>10</sup> Popova S. M., “Gaagskaia model” pravovogo regulirovaniia deiatel’nosti v oblasti kosmicheskikh resursov i perspektivy transformatsii mezhdunarodnogo kosmicheskogo prava // Issledovaniia kosmosa [‘The Hague Model’ of Legal Regulation of Activities in the Sphere of Cosmic Resources and Perspectives of Transforming International Space Law// Space Explorations], 2018. No. 2, pp. 144 — 174. DOI: 10.7256/2453-8817.2018.2.28631. URL: [https://nbpublish.com/library\\_read\\_article.php?id=28631](https://nbpublish.com/library_read_article.php?id=28631)

<sup>11</sup> Under Obama’s ruling in 2015 the law, which allowed private business to extract and appropriate minerals obtained in outer space, was approved and it triggered the involvement of private business to conduct such an activity, to design reusable spacecrafts and to increase the profitability of the whole process. The law used gaps in international outer space law. *See*: S.M. Popova, *Sovremennye tendentsii razvitiia mezhdunarodnogo kosmicheskogo prava // Pravo i gosudarstvo* [Current Trends in Developing of International Space Law// Law and State], 2016. No. 4 (73), pp. 66–71.

### **The evolution of nations on the Earth into space ones**

In the 20<sup>th</sup> century — in the early 21<sup>st</sup> century the rate of technical, technological and information development of humankind is overwhelming the imagination. The thing, which was recently a science fiction is becoming a reality, and is crossing over into an ordinary, publicly available technique and technology. The vivid example is personal computers and mobile phones served as PCs, the Internet. At present, half a century later, the models of personal computers and mobile phones have such a processing power and the amount of memory that are several times more powerful than the speed and the storage of bulky on-board computers used in spacecrafts launched to the Moon.<sup>12</sup>

Take another example: The building of the first primitive low-speed aircraft just started in the early 20<sup>th</sup> century. There are over 500 thousand aircrafts in the world today. Over 2 billion people — about one third of the world's population — are annually transported by air. Meanwhile, there are simultaneously thousands of planes in the air, which transport daily between 300 thousand and one million people.<sup>13</sup> The concept of a “flying man” has been firmly established.<sup>14</sup>

The rapid advances in the space activity can be anticipated and must be expected, as the cost of space rockets, aircrafts, and vehicles is reduced in the transition to multi-stage space rockets, aircrafts and vehicles while new technologies, engines, materials, etc. are being adopted.

The states, which have emerged and develop on the Earth as the humanity advances explore the planets and create conditions for the exploration of the outer space, together with human beings becoming naturally the subjects of the space

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<sup>12</sup> Hardesty and Iceman argue, “despite on-board computers at “Apollo” were important their operational capability were limited even in comparison with current desktop personal computers. For example, the targeting computer on “Apollo” board weighed 32 kg and was placed in the flat box sized 1m by one and a half. Its CPU speed was 1 MHz with RAM of 1 KB and with permanent memory of 12 KB. At the present, a usual personal computer has CPU whose speed is a hundred times quicker, and its RAM is about 500 thousand times more capable. A hard disk drive substituted the permanent memory. It allowed increasing capability in a million times”. See: Von Hardesti, Dzhin Ajsman, *Istoriia kosmicheskogo sopernichestva SSSR i SSHA [The History of Space Competition between the USSR and the USA] // Electronic library in the format of fb2*. URL: <http://litresp.ru/chitat/ru/%D0%A5/hardesti-von/istoriya-kosmicheskogo-sopernichestva-sssr-i-ssha> (November 15, 2018).

<sup>13</sup> See: S. V. Krichevskij, *Aerokosmicheskaja deiatel'nost'. Mezhdisciplinarnyj analiz [Aero-cosmic Activity. Inter-branch Analysis]*. M.: Knizhnyj dom “LIBROKOM”, 2012. p. 16.

<sup>14</sup> See: *ibid*, p. 90. See also: S. V. Krichevskij, *Aerokosmicheskaja deiatel'nost': metodologicheskie, istoricheskie, socioprirodnye aspekty: monografija [Aero-cosmic Activity: Methodological, Historical, Socio-natural Aspects: a Monograph]*. M.: Izd-vo RAGS, 2007. 316 p. P. 55.

activity. During the global evolution of such a phenomenon as a state embodied in the form of organization of social life at different levels, the state and the statehood, in general, as the set of existing and interacting states, are coming down the line, when they get energy and resources to start penetrating into the outer space actively and exploring its enormous natural wealth. It provides new, previously unknown opportunities but does not bear risks or danger with regard to ecology and adaptation to new extraterrestrial living conditions.

In order to penetrate into outer space the mankind has to solve a lot of issues, experience many patterns, cope with risk factors and threats, be adapted to space living conditions and activity that will be absolutely strange, create an artificial environment being as close as possible to the Earth one in this unfavorable space conditions, develop and transform gradually space objects. A great importance during this organizational activity will be attached to the revitalized and hi-tech state that achieved new levels of efficiency.

The more the Earth state penetrates into space, the more it is addressed as a space state whose activity will not be limited by the territory of the Earth and will decline to be conducted in outer space. The more mankind penetrates into space and explores it, the more powerful the space activity becomes. The potential of a state as a historical phenomenon will be fully realized in a space state. Its further evolution will be significantly connected with space, its infinite expense and resources.

### **Formation of space states: natural, artificial, internal and external**

The process of forming a space state can have numerous options. Just as the previous evolution of the statehood had many options, so the next one can have many options too. Just as civilized, cultural, geographical and other peculiarities in the Earth history of different states and peoples had different influence on the speed and ways of evolution, forms, and other peculiarities of different countries, so the formation of space states in different historical and starting conditions will inevitably disclose the specificity of speed, forms, and the pace of development.

Some countries can hardly imagine or even foresee the precise modalities, details, and peculiarities during such a state-space evolution in advance. It is, however, possible to predict some general trends and typical options of running this global process.

We assume that the process of forming and fixing a space state from the Earth states or on the basis of the mankind of the Earth can have several options.



**Firstly**, as a natural process, transformation (sprouting) during the evolution of the Earth's states into space ones. Depending on their technical and economic development, the Earth's states achieve the level of a high and various space activity (including industrious, energy-related, extracting natural resource, processing them, building scientific, industrial, transport, tourism, military, law enforcement, and other infrastructure and activity in space), and penetrate deeply into space. Such a level of development can be achieved both by separate strong nation-states, their alliances, federations, confederations, and by planetary state entities (for example, federation or confederation of the Earth's states), which can exist along with strong nation-states or their alliances inside such a planetary federation (or confederation at a certain stage). This might also include a balanced and legally harmonized coexistence of all three levels of statehood within the planetary union of states (the first occasion of which is exemplified by the United Nations).

Besides, at the end of the 18<sup>th</sup> century the founder of German classical philosophy, Immanuel Kant, was the first to predict the inevitable emergence of the world federation of states to ensure peace in the world. He admitted that such a level of political development of the mankind allowed for the existence of dual citizenship — nation-state and world federation.<sup>15</sup>

**Secondly**, space states can emerge as a result of an accelerated artificial process that is due to the creation, the social and political construction of totally new space states by the founders. It will seem attractive for a certain part of the population, especially in the context of globalization and expectations as well as the beginning of a new active phase of space exploration and the realization of new major space projects by a group of states (it can be exemplified by the first but unrecognized space state, Asgardia), but only if dual citizenship is allowed.

At present, such a type of space state formation is exemplified by the unrecognized State Kingdom, Asgardia.<sup>16</sup> The formation of this entity began on the Earth at the end of 2016. It is a combination of a digital, virtual, network state and a state model formed from real (living) people, which hopes, even later on, to be recognized by

<sup>15</sup> See: S. F. Udartsev, *Politicheskie i pravovye idei Immanuila Kanta // Immanuel Kant. Ideia vseobshhej istorii vo vsemirno-grazhdanskom plane. K vechnomu miru [Political and Legal Ideas by Immanuel Kant // Immanuel Kant. The Idea of All-Mankind History in the World Community. On the Way to the Eternal Peace]* / Introd. and comments by Udartsev S. F., 2nd edit. amend. Almaty: Zheti Zhargy, 2004, pp. 5 — 46.

<sup>16</sup> See: V. Fedorova, *Kosmos dlia obychnykh liudej // Vozdushno-kosmicheskaia sfera [Space for Ordinary People // Air and Space Sphere]*, 2017. No. 4 (93) December, pp. 5 — 13.

other states and the United Nations. In December 2018, over 280 thousands of people living in different countries around the world were considered as the citizens of Asgardia. The number of its citizens was increasing. However, the citizenship was initially duty-free but when the fee was fixed at €100, not all citizens repaid it. On December 23, 2019, 17,970 people were accepted as residents, that is full-fledged citizens. 272,713 people are “in limbo”, prospective residents. According to the website of the unrecognized state, the total number of the population living in Asgardia is 1,042,041 people.<sup>17</sup> At present, Asgardia has its own head of the state (Igor Ashurbeyli), Parliament, Government, ministries. It has its first small artificial Earth’s satellite that contains information about first citizens of the space state.

This option of emergence of a new space state is likely to be a utopia. This project, however, is not completed; therefore, there are no grounds to exclude the possibility of its successful realization, in varying degrees, though the chances of making it are pretty slim. However, this project paves the way to other possible social and political innovations of this kind. So, of the internal and external conditions are favorable, some of them will be likely realized successfully in the future.

These two types of emergence of the space state can be assumed as *an internal (Earth’s) process* of formation of a space state.

If, hypothetically, **the third option** is possible far in the future, which is connected with external cosmic factors of the evolution of the terrestrial civilization. This option presupposes the existence of extraterrestrial intelligence. As it is known, some US spacecrafts traveling beyond the solar system contains messages from extraterrestrial intelligence and information about the mankind, its peoples and languages. The contact with such highly developed extraterrestrial intelligence, states or other forms of entity can have a great impact on the development of nations on the Earth.

As early as in 1920, in several articles dedicated to space philosophy, the theorist of astronautics, K. E. Tsiolkovsky, argued that there was a possible alliance of highly developed, intelligent, sentient beings.

But in so doing, when we speak about the emergence of some forms of the space state it is unreasonable to exclude the possibility of combining the impact of internal and external factors.

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<sup>17</sup> See: Asgardia (Official website): <https://asgardia.space/en/> (January 23, 2019).



**A possible formal status of a space state**

Legal regulation of the evolutionary process of the Earth states into space states, and in future mostly space states (depending on the level of involvement into space activity), can take different forms. But in any case this process will be reflected in regulations of national law, in acts made by supranational or global (planetary) state organizations, as well as in international legal instruments (treaties, conventions, protocols, declarations) which are related to the issues regarding space activity or concluded between space states.

It is possible to suppose that states will apply such a form of a legal document common throughout legal history as a declaration; in this case that is a declaration on self-proclamation as a space state, on achieving such a level.

Sooner or later the status of a space state might be also enshrined in constitutions as a basic instrument of a state. For example, it may be stated in the preamble of the constitution of a state or in its articles of a general nature, which determine the status of a state. Separate provisions relating to a space state, its connections and interaction with other nations on the Earth and in space, space policy conducted by them, competences of central and local public authorities which participate in space industry, issues with regard to citizen rights, freedoms connected with their participation in space industry or being in space can be embodied both in more specific articles of the constitution and in laws or by-laws of space states.

In 2017, Space Kingdom Asgardia adopted its own Constitution by conducting a referendum. It contained general provisions, rights, freedoms and duties of citizens, the status of public authorities — the Head of the State, Parliament, Supreme Space Council, Court, Prosecutor's Office, Accounting Chamber, National Bank, etc. For the first time this unrecognized state tries to combine digital technologies, virtual reality and living citizens. But what remains unsolved is the constitutional problem of the proclamation of citizenship by Asgardia since it has another nature for citizens of other nations on the Earth (the citizenship of this state does not imply dual citizenship with regard to other states, therefore it does not fit into contemporary national concepts of traditional citizenship). Nevertheless, though there are some peculiarities of the constitution, which have a utopian and declarative character and some legal and technical defects, the constitution of the first space state is considered as a pilot, specific instrument which tries to master a new conceptual scope of legal awareness. At the beginning of the 21<sup>st</sup> century, this constitution is considered

utopian, but it can stimulate the development of the constitutional and legal thought, especially in the long term, when the space statehood is still in its infancy and will be likely developed within the 21<sup>st</sup> century.

In the long run, other space civilizations may be discovered, therefore we may expect specific treaties to be entered into at a much higher level, i.e. between different civilizations, where some space nations on the Earth, their alliances or their global planetary unions will participate in.

### **Conclusion**

The analysis of perspectives and potential relating to the evolution of the state as a historical phenomenon makes us conclude that participation of the state in space activity will definitely increase, its space infrastructure will inevitably develop and we will witness gradual evolution of the developed nations on the Earth into space states. In this respect, the space state is one of the main strategic trends and stages of forming a state of the future.

Due to technological, economic, social, information, political and legal development, the gradual transformation of nations on the Earth offers us new tremendous opportunities. Reducing the costs and increasing the profitability of techniques and technologies will have a multiplier effect on all fields of human activity and increase its security and sustainability of development.

Space states can emerge *naturally* due to internal processes (in the form of a national space state, an alliance of national space states or a national organization created by them, but later on, it may be a global planetary organization of national states in the form of their federation or confederation) or *artificially* (the first prototype was the Space Kingdom Asgardia which was created in 2016), and externally too.

The emergence of space states and the increase of space activity in the context of the state activity will be reflected both in different legal instruments of national law (including a constitution) and in international legal acts, but further in the future in hypothetical inter-civilizational legal instruments.

The first constitution of the space state, the Constitution of Asgardia, can be assumed as the first attempt to design the constitutional act of the state notwithstanding the existence of utopian and declaratory provisions, legal and technical defects. Some of its ideas will be taken as a basis for constitutions of future states.