

EU Space Doctrine – Sustainable Development or a New Arms Race

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Strategic documents of the European Union (EU) in the space sphere are analyzed in this Article. It is concluded that despite the active use of the “space doctrine” concept in the EU, regulating public legal relations through the establishment and adoption of the corresponding branch doctrine it is not an ongoing practice. The author substantiates the view that the “space doctrine” concept is not sufficiently studied today. Despite the claim that the term “doctrine” is of military origin, security and defense doctrine can be a tool of command, of education, or transformation. The dialectic-materialistic method of cognition was used as a general scientific method, which enabled to carry out a comprehensive scientific analysis of doctrinal provisions in the development of the concept of the EU space doctrine, which is proposed to be used as a unifying term for the latest European acts in the field of space security and defense.

Keywords: space doctrine, space activity, space policy, Strategic Compass, Security, Defense, EU Space Strategy, arms race.

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Introduction

The reason for the emergence of the Cosmic Doctrine as a legal phenomenon was the expansion of the frontiers after a man entered space. This has raised many questions for scientists about the knowledge of the nature of law as a special tool of social engineering of space activities, which is not only the regulator but also the main management mechanism for the transition of civilization to a sustainable future under comprehensive penetration of space technologies and services into people's everyday life. The changing paradigm of humanity's attitude towards the opportunities for space exploration is the main factor in the formation of the new Cosmic Doctrine. After all, the global scientific revolution has made this space the common heritage of all mankind; the countries have an equal right to freely explore, develop and use outer space and its celestial bodies; the space activities in all States should contribute to economic development. Besides, progress should contribute to the safety, survival and development of mankind, promote friendly cooperation among the nations.

However, the war in Ukraine, Russia's nuclear blackmail, China's active exploration of outer space, as well as the aggressive policies of Iran and North Korea have put an end to the world community's hopes for sustainable development and peace. Space has become a "battleground" for control of life on Earth.

Therefore, in the current geopolitical context of increased competition for power and threats, the EU takes measures to protect its space assets and interests, deter hostile activities in space, and strengthen its strategic position and autonomy (EU Space, 2023). In 2022, EU leaders identified space as a strategic direction in the Strategic Compass (A Strategic, 2022) and called for the development of an EU Space Strategy for Security and Defense.

An attempt to regulate public-law relations through the creation and adoption of a relevant sectoral doctrine is not a sustainable practice for the EU; in other countries, however, it has been used as a source of law for some time. For example, Military Space Doctrine (Document, 1982) and Joint Doctrine Publication (JDP) 0-40 and UK Space Power (First Edition) are key elements of the space doctrine in the USA and the United Kingdom respectively (Guidance, 2022).

When preparing this paper, we researched, analyzed and used the works by foreign authors-experts in field of law, philosophy, cosmology, sociology, history, military affairs, theory of law and the State, public administration, etc.

For example, we studied a research paper on military affairs "Space Doctrine of the 21st Century," which was developed by Robert D. Newberry for the graduates of the US Air Command School Research Department. The specified document directly indicated that the "developed doctrine includes the principles of space management, operational arts of space warfare and space force deployment strategies" (Newberry, 1997). When preparing this work, we also used the research by other scholars – specialists in air military doctrine: Robert Frank Futrell (Futrell, 1971), Barry R. Posen (Posen, 1984), David E. Lupton (Lupton, 1988). All of them viewed the "military doctrine" as part of an extensive strategy directly related to military means.

The authors of the comprehensive study "Escalation and Deterrence in the Second Space Age" Todd Harrison, Kaitlyn Johnson, Zack Cooper, and Thomas G. Roberts conducted the analysis of the US military space doctrines and came to the conclusion that we are now in the second space age, therefore legal regulation of space activity on the basis of legal instruments adopted in the 1960s no longer meets modern requirements. The authors also analyzed the report by the Center for Strategic and International Studies (an analytical institute in the

USA) and put forward the thesis that the available US military space deterrence doctrine has experienced crisis in the second space era (Harrison et al., 2017).

Thus, all studies dedicated to the space doctrine were carried out with an emphasis on the military purpose and did not take into account its importance for the sustainable inclusive and innovative development of space activities.

Indeed, “doctrine” has always been associated with war and was mostly a military term in world practice, at least during the 20th century (Høiback, 2011). That is, having analyzed the above examples of space doctrines, we can state that almost all existing scientific developments were related to military purposes or defense. However, this concept has not been sufficiently studied today. After all, the doctrine of security and defense cannot or should not be everything and for all people. On the contrary, such doctrine may be an instrument of command, education, or transformation.

If we turn to the theory of law, it operates such a concept as “legal doctrine”, an important component of which is the evaluation and forecasting component with the programme provisions of recommendatory-guiding nature and constituting the result of a critical analysis of State and law-making practice (Soroka, 2020a). This issue was specifically studied by Mark Van Hoecke and François Ost (Van Hoecke & Ost, 1998: 197), who studied the relationship between systematization, legal interpretation and legal doctrine. According to them, the conceptual basis, which is also the basis of any legal norm as well as legal reasoning, is formed by legal doctrine.

Some scientists believe that the main task of legal doctrine is the theoretical justification of new ideas and concepts, strategic directions, which do not need to be recorded in any document (Soroka, 2020a). But we believe that the main value of the legal doctrine lies in its practical application in the life of society, since it is focused on solving practical problems in the legal sphere, that is, it is practically meaningful. In addition, that legal doctrine is a system of theoretical and scientific provisions about law that have a convincing force and an application value, it is still as a source of law should be authorized by the State in the form of a regulatory act (Soroka, 2020b).

Hence, doctrines-acts in the field of security and defense are a source of law, which are authorized by the State and designed to regulate the most important social relations in the specified field; they contain a strategic vision regarding the regulation of the specified areas and relations in the context of their sustainable development in the long term and are always adopted by higher authorities. Therefore, in our research, we will use this concept when characterizing European space strategic documents.

A Strategic Compass for Security and Defense

The war in Ukraine pushed European politicians to develop and adopt new strategic documents in the field of security and defense. As the High Representative of the European Union for Foreign Affairs and Security Policy Josep Borrell correctly pointed out: “The threats are rising and the cost of inaction is clear. The Strategic Compass is a guide for action. It sets out an ambitious way forward for our security and defense policy for the next decade. It will help us face our security responsibilities, in front of our citizens and the rest of the world. If not now, then when?” (A Strategic, 2022a).

The first version of the Strategic Compass was presented by the High Representative in November 2021, based on the first ever threat analysis joined by the intelligence services of

27 EU Member States and a phase of structured dialogue between EU Member States, institutions and experts. Successive versions were discussed in February and March 2022 to reflect the debate between the Member States and take into account the Defense and Space Commission package of 15 February and recent international developments, including Russia's military aggression against Ukraine (A Strategic, 2022a). The Strategic Compass was approved by the Council of the European Union at its meeting on March 21, 2022 (A Strategic, 2022b).

When developing the Strategic Compass, various aspects of the EU's security and defense policy were taken into account, but they were all established around four pillars:

- Act more quickly and decisively when facing crises;
- Secure our citizens against fast-changing threats;
- Invest in the capabilities and technologies we need; and
- Partner with others to achieve common goals (A Strategic, 2022c).

After careful analysis of existing EU security and defense threats, it was decided to conduct such an analysis every three years starting from 2022. It should be noted that such a comprehensive study of existing and potential threats was conducted for the first time. Based on this evaluation, among other threats, it was also determined that there is a risk of restricted access to the high seas, outer space and digital sphere. In addition, it is acknowledged that the return of the politics of force is taking place at the global level.

The contemporary international reality is based on the combination of dynamics with a growing number of actors seeking to expand their political space and challenge the security order. Armed aggression against Ukraine demonstrates a willingness to use the highest level of military force, regardless of legal or humanitarian considerations, combined with hybrid tactics, cyber-attacks and external information manipulation and interference, economic and energy pressure, and aggressive nuclear rhetoric. These aggressive and revisionist actions, for which the Russian government, along with its ally Belarus, carries full responsibility, seriously and directly threaten the European security order and the safety of European citizens (A Strategic, 2022c).

In the analyzed strategic document, outer space has been defined as overburdened and contradictory because of the irresponsible behavior of various actors. Due to the fact that space activity is a key factor for the development of many earthly spheres (because without surveillance, monitoring, navigation and communication today is unlikely to exist and develop), outer space has been defined as a strategic direction and an operational area.

The Strategic Compass confirmed the EU's intention to work on a proposal for a space-based global secure communications system of the EU, including through the Union Secure Connectivity Programme for the period 2023-2027 (EU secure, 2023; A Strategic, 2022c) with the following objectives:

- to provide worldwide access to secure government satellite communications services for critical infrastructure protection, surveillance, external action and crisis management;
- to enable the private sector to provide business services such as high-speed broadband and uninterrupted connectivity across Europe and the Union (EU), thus eliminating "dead zones" – one of the goals of the proposed 2030 Digital Decade (EU secure, 2023).

In order to strengthen the ability to predict, deter and respond to current and rapidly emerging threats and challenges, as well as to protect the security interests of the EU, a decision

was made: 1) to boost its intelligence analysis capacities; 2) to develop Hybrid Toolbox and Response Teams bringing together different instruments to detect and respond to a broad range of hybrid threats; 3) to further develop the Cyber Diplomatic Toolbox and set up an EU Cyber Defense Policy to be better prepared for and respond to cyberattacks; 4) develop a Foreign Information Manipulation and Interference Toolbox; 5) develop an EU Space Strategy for Security and Defense; 6) strengthen the EU's role as a maritime security actor (A Strategic, 2022a).

Therefore, the need to develop and adopt the first-ever policy document in the field of space security and defense, which was enshrined in the EU Strategic Compass, should be recognized as a relevant and timely response of the European Community to the destabilizing challenges in this area.

EU Space Strategy for Security and Defense

It is uncontested that space is crucial to societies and economies, and is a key factor in security and defense. The first EU Space Strategy for Security and Defense, which, in our opinion, can be called the first EU Space Doctrine, was published in 2023 after the recognition of outer space as a strategic sphere and operational area in the EU Strategic Compass. After all, it has long defined EU policy in the space sphere, declaring the main goals: “protecting its interests, deterring hostile activities in space, and strengthening its strategic position and autonomy” (European, 2024).

It should be noted that the “restraint of hostile activities in space” is a rather radical turn for European space policy. After all, all previously adopted documents, including the EU Space Program (Regulation, 2021), declared that all measures in outer space will be “aimed at security; advantage for users; economic growth and competitiveness” (European, 2024). All these programs were more “service” than security. According to Daniel Fiott – Head of the Defense and Statecraft program at the Center for Security, Diplomacy and Strategy of the Brussels School of Governance – this marks a paradigm shift in how the EU sees space and defense, and recognition at the highest political level that space and defense cannot be ignored (EU, 2023a: 4).

So, what does the European community consider to be “hostile activity” in space? And who are the EU's strategic competitors in space?

First of all, the Strategy defines a new scope of its operation – a space domain. According to this new definition, the space domain includes all elements related to the functioning of space systems and the provision of space services, that is, physical space environment, various orbits and spacecraft, their ground and launch infrastructure, radio frequency communication channels, user terminals, information related to and delivered from these space assets, the relevant cyber environment and basic industrial space sector (EU, 2023b).

Secondly, threats created by counterspace capabilities are defined, namely directed against: space systems, their auxiliary ground infrastructure, data transmission channels between space systems and ground infrastructure, the space sector and its supply chains. Counterspace capabilities include direct-ascent and co-orbital anti-satellite systems, cyber-attacks, electronic warfare and directed energy (European, 2024).

The Strategy proposes actions to strengthen the resilience and protection of space systems and services in the EU. For this purpose, the European Commission put forward a number of initiatives, in particular:

- to develop EU space law to provide a common framework for safety, security and sustainability in space;
- to create an Information Exchange and Analysis Center (ISAC) to raise awareness and facilitate the exchange of best practices;
- to start preparatory work on long-term autonomous EU access to space, in particular taking into account security and defense needs;
- to enhance EU technological sovereignty by reducing strategic dependency and ensuring security of space and defense supply in close coordination with the European Defense Agency and the European Space Agency (EU, 2023b).

With regard to strategic competitors, the strategic documents under consideration do not indicate which countries they are. The document entitled “ESPI Report 75 – European Space Strategy in a Global Context – Full Report,” which was published in 2020, the following countries are named as strategic competitors in the space sphere: the United States, Russia, China, India, Japan (ESPI, 2020: 9). The report also emphasizes that one of the most striking trends characterizing the evolution of the space industry in recent years is a sharp increase in the number of entities – both public and private ones – capable of conducting space activities. In terms of public sector involvement, a significant number of new space countries have emerged in recent years (i.e. countries that have gained access to space capabilities, or more likely launched their first satellites), as well as several new space agencies were created. In the past five years alone, eight countries have established national space agencies (ESPI, 2020: 9). Thus, according to the Union of Concerned Scientists (UCS) as of May 01, 2023, the total number of available satellites in space is 7,560, of which the United States: 5,184; Russia: 181; China: 628; Europe: 396; Japan: 80; India: 58; Others: 1033 (UCS, 2023).

With regard to the arms race in outer space, the official page of the European Commission in the analysis of the EU Space Strategy for Security and Defense states that the EU seeks to prevent such a race and actively advocates for the reduction of the space threat by means of norms, rules and principles of responsible behavior (EU, 2023). The European institutional budget for civil and military space activities – in terms of research and development funding programmes and institutional procurement of space products and services – is a small fraction (approximately six to seven times less) than in the United States. This is primarily due to the fact that there are few European space military programs compared to all others space States, less developed synergies between the civil and defense sectors, and lack of European interest in an autonomous human space mission (i.e., human-evaluated systems) (ESPI, 2020). At the same time, the EU has to cope with new security challenges, including in the space sphere. With the help of the Space Strategy for Security and Defense, the EU intends to protect its security interests in space (EU, 2023). Therefore, this document defined a “defense-oriented” (EU, 2023a: 4) transition in space policy.

In conclusion, we would like to cite a phrase from the EU Space Strategy for Security and Defense: “The use of space for defense and security purposes acts as a potent force multiplier, improving military operations’ efficacy and the resilience of vital infrastructure and public services” (EU, 2023a: 6).

Conclusions

The current stage of global trends is more uncertain, less stable and transparent, which affects space activity and creates disturbing prospects for peaceful international co-existence

in the space sphere. In general, rising tensions and changes in the balance of power revive a new era of superpower rivalry that extends to space; this is primarily reflected in the expansion of military space activities. All this is reflected in the new EU space doctrine. After all, the EU space policy has passed a number of transformations regarding the definition of the goals of such policy, namely: at the beginning there were political goals (prestige), then economic goals (creation of jobs and the welfare of EU citizens); at the current stage it is a defense-oriented approach, but with social-economic justification. All these changes require the adoption of a new European Space Law, which will establish common standards and rules for the national legislation of the EU Member States and the Community as a whole.

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