



# The Impact of Law on NATO's Space Power at the Speed of Relevance

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## Introduction

**T**he Space security landscape has become increasingly complex and critical to operational success. Allied leaders have recognized Space as a highly dynamic and strategically relevant environment – critical to the Alliance's core tasks of collective defence, crisis management, and cooperative security. In 2018 this led to NATO leaders agreeing to the development of an overarching Space policy.<sup>1</sup> In 2019, as part of this development, NATO officially recognized Space as an operational domain on par with and linked to the Land, Maritime, Air, and Cyberspace domains. In parallel NATO leaders have identified Space technologies as one of seven critical emerging and disruptive technologies essential for the Alliance to maintain a technological edge.

The NATO Science and Technology (S&T) Organization (STO) has responded to these developments by undertaking a comprehensive review of its Space S&T activities and developing a multi-year strategy for Space S&T development. For this review, a series of intense workshops were

conducted by the Systems Concepts and Integration (SCI) panel. These workshops explored several potential areas for Alliance S&T collaboration and identified significant factors (concepts and constraints) associated with such development. This paper treats the interplay between two of these identified factors, the need to respond at the 'speed of relevance' and the practical implications of an ambiguous Alliance Space legal framework.

The Speed of Relevance is a modern concept with multidimensional reach and applicability. It reflects the evolving organizational culture of defence organizations and the need for more efficient and effective decision-making processes, within increasingly complex strategic environments.<sup>2</sup> In order to deliver Space-derived Data, Products, and Services (DPS) at the Speed of Relevance, the NATO Alliance (Alliance) must ensure that it complies with the international legal framework established under the North Atlantic Treaty (Treaty), the 'pierre angulaire' of the Alliance, which is in line with overarching regulations by the United Nations.

Article 3 of the Treaty states that the NATO Allies (Allies) must act together, continuously and effectively to achieve Allied objectives.<sup>3</sup> With this in mind, the Alliance currently does not plan for the foreseeable future to procure NATO-owned Space systems, but instead, is planning to continue relying on Ally-owned assets. This decentralized Space capability requires an enhanced degree of cooperation and coordination among Allies regarding Space DPS, interoperability and evolving Space legal frameworks and policies.

Consequently, the authors examine current international legal frameworks regarding Space law and the role of harmonization to foster legal and policy interoperability. We then focus on the extent of the collective self-defence umbrella towards the Space domain and conclude with several significant Space international legal concepts that impact future NATO Space operations.

## Domestic Space Legal Frameworks and NATO: Regulatory Competition vs Harmonization

Outer Space is becoming increasingly accessible to new actors due to increased affordability, technology proliferation, and commercial sector innovation. Consequently, Space activity is expanding globally, and many Allies are developing domestic Space legal frameworks to attract investment capital, increase Space commerce, and compete globally. Simultaneously, the increasingly congested, contested, commercial, and competitive nature of Space operations intensifies the need for legal clarity and harmonization. These legal frameworks attempt to regulate the Space sector and fill the gaps where international Space law is open for interpretation. However, there is a lack of consistency between such national frameworks, with some nations having comprehensive overarching policies beyond the basic instruments of international Space law and others not having ratified the basic instruments of international Space law.

At the same time, the development of multiple domestic legal frameworks across different Allied jurisdictions may result in regulatory competition. Unless checked, such competition inevitably leads to the progressive dismantling of regulatory standards or a 'race to the bottom'. This phenomenon occurs 'under conditions of economic interdependency between jurisdictions, when one state lowers its regulatory standards in order to attract investments.'<sup>4</sup> A race to the bottom could ultimately damage the interoperability of the Space legal frameworks of the Allies. In the end, this diminishes the collective value of NATO Allies' Space assets and negatively impacts NATO Space power projection.

To avoid regulatory competition and a lack of coordination among frameworks and policies, the NATO Alliance is in a position to use its prominence and influence to promote a dialogue favouring the harmonization of national Space legal frameworks. The harmonization process should not

create a single or unique legal framework for the Alliance. Instead, it should focus on fostering a common legal Space doctrine based on agreements regarding fundamental mechanisms, international standards, or norms of behaviour.

Space interoperability is enhanced if the NATO Alliance builds a framework in which its Allies can collaborate using operational assets and respective national policies or frameworks. Therefore, a harmonious legal collaboration could enable decision-makers to make synchronized decisions in a complex decentralized environment more rapidly, or, if you prefer, at the Speed of Relevance.

To accomplish this goal, the NATO Alliance needs to define the North Atlantic Treaty's applicability in the Outer Space domain using this as the developmental foundation of a comprehensive Space legal architecture. The authors highlight several critical issues in extending the Treaty to the Space domain in the following section.

## **The North Atlantic Treaty and the Outer Space Domain**

In 2019, the NATO Alliance recognized Space as an operational domain; however, the North Atlantic Treaty (Treaty), which is the foundation of the NATO Alliance, was signed in 1949 and hence does not acknowledge Outer Space within its articles. While the Treaty does not deny parties the possibility to carry out operations in Outer Space, the Treaty's wording makes it unclear whether NATO's collective self-defence' umbrella, provided through Article 5, would apply to the Space operational domain.

The wording of Article 6 of the Treaty, which defines an armed attack for Article 5, states that an armed attack is as an attack:

- 'on the territory of any of the Parties in Europe or North America, on the Algerian Departments of France, on the territory of Turkey or on the Islands under the jurisdiction of any of the Parties in the North Atlantic area north of the Tropic of Cancer;
- on the forces, vessels, or aircraft of any of the Parties, when in or over these territories or any other area in Europe in which occupation forces of any of the Parties were stationed on the date when the Treaty entered into force or the Mediterranean Sea or the North Atlantic area north of the Tropic of Cancer.<sup>5</sup>

According to the Outer Space Treaty (OST)<sup>6</sup>, Outer Space is not subject to national appropriation by claiming sovereignty or any other means available to a nation-state. Thus, if Allies are unable to extend national sovereignty to Outer Space there are some questions that can be asked:

- Could an 'armed attack', as defined in article 6 of the Treaty, ever occur in Outer Space?
- If so; would the concept of an 'armed attack', as defined in article 6 of the Treaty, apply to the forces, vessels, or aircraft of the Allies while in Outer Space?
- Should armed attacks on commercial satellites, installations, or networks fall inside the Treaty's terms?

The lack of clarity of this provision of the Treaty weakens the Alliance's options for deterrence. Indeed, it may threaten the rapid delivery of Space Power at the speed of relevance. Nevertheless, NATO has options to address this situation. The authors believe that the Alliance should:

- Build on previous cyber-attack declarations<sup>7</sup> to issue a formal declaration stating the readiness to counter attacks on Allied Space assets, Including an explanation of which assets fall within the scope of the Treaty.

- Consider adopting Treaty instruments that would include attacks against Space assets.

## The Clarification of Significant Space International Legal Concepts

The international legal framework that governs Space activities contains several areas open for interpretation. Perhaps the most critical are:

- **The boundary between airspace and Outer Space:** When we refer to Outer Space as an operational domain, it seems apparent that we are referring to a domain different from the operational air domain; but legally speaking there is no clear border between these two. International law has yet to define the frontier between airspace and Outer Space unambiguously.<sup>8</sup>

The importance of defining this boundary relies on the fact that international Space law is different from international air law, impacting air operations. NATO decision-makers have an opportunity to explicitly define the operational border between these two domains for the Allies, bearing upon Space operations.

- **Peaceful use of Space:** The preamble of the OST<sup>9</sup> recognizes Outer Space for peaceful purposes, but it does not define the term. However, it establishes a particular legal regime on celestial bodies, declaring them a demilitarized zone, and bans the stationing of weapons of mass destruction in Outer Space.

This lack of definition and precision on the language has originated two approaches among the OST signatory nations. On one side, several countries have adopted the position that peaceful means 'not aggressive'; on the other side, several member nations have adopted a position that peaceful means 'non-military'.<sup>10</sup>

There is a clear limit regarding the use of force, irrespective of the chosen definition of peaceful purposes in the OST text. Article 2 (4) of the

UN Charter<sup>11</sup>, provides such a limit applicable to Outer Space along with the exceptions stipulated in the UN Charter and general international law through article III of the OST that applies the principles of international law to the territory of Outer Space.

To address Alliance interoperability challenges, the Allies have to agree on the definition of numerous imprecise international legal terms. The authors believe that NATO is an ideal platform for raising awareness of this issue and developing such an agreed Space legal international framework while harmonizing differing criteria across its Allies. This is true whether NATO acts directly or as a catalyst for such a discussion.

## Conclusion

To move forward in the operationalization of Space, the NATO Alliance requires an agreed regulatory and legal environment. The lack of clarity of the North Atlantic Treaty and the legal vacuum regarding the international legal framework are stumbling blocks that 'could provide one iota of decision advantage to potential adversaries at a great cost.'<sup>12</sup>

The SCI workshop noted that to deliver Space power at the speed of relevance, the NATO Alliance should:

- Encourage the development of the operational and legal frameworks through which the Allies can collaborate via both operational assets and their respective national policies and frameworks.
- Clarify the applicability of the North Atlantic Treaty to Outer Space and use the Treaty as a foundation towards achieving the first objective; Work towards the establishment of a forum to synchronize international legal concepts across the Allies.



NATO has a unique opportunity to become an international leader in synchronizing Space legal frameworks and policies. At the same time, it can promote dialogue between the Allies and build upon their Space Policy. These are small but critical first steps to ensure reliable access to Space services and harmonize the Alliance's approach to Space security.

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## Endnotes

1. 'NATO's approach to space', (2020), available at: <https://www.nato.int/cps/en/natohq/topics> (accessed 10 Mar. 2021).
2. Dransfield, J., 'How Relevant is the Speed of Relevance?: Unity of Effort Towards Decision Superiority is Critical to Future U.S. Military Dominance' (2020), available at: <https://thestrategybridge.org/the-bridge/2020/1/13> (accessed 25 Mar. 2021).
3. The North Atlantic Treaty, art. 3, 1949.
4. Linden, D. 'The Impact of National Space Legislation on Private Space Undertakings: Regulatory Competition vs Harmonization', *Journal of Science Policy & Governance*, ISPG. Vol. 8. Issue 1 (2016).
5. *Ibid.* 3., art. 6.
6. Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, art. 2, 1967.
7. Stoltenberg, J. 'NATO will defend itself' (2019), available at: [https://www.nato.int/cps/en/natohq/news\\_168435.htm?selectedLocale=en](https://www.nato.int/cps/en/natohq/news_168435.htm?selectedLocale=en) (accessed 20 Feb. 2021).
8. De Gouyon Matignon, L. 'The Delimitation Between Airspace and Outer Space' (2019), available at: <https://www.spacelegalsues.com/the-delimitation-between-airspace-and-outer-space/> (accessed 25 Mar. 2021).
9. *Ibid.* 5., preamble.
10. Blount, P. J., 'Limits on Space Weapons: Incorporating the Law of War Into the *Corpus Juris Spatialis*' (2008), available at: <https://www.researchgate.net/publication/228227466> (accessed 21 Mar. 2021).
11. Charter of the United Nations, art. 2, para. 4, 1945.
12. *Ibid.* 1.