

RESPONSIBILITY AND NEUTRALITY IN TIMES OF WAR: UNDERSTANDING THE LEGAL IMPLICATIONS OF STARLINK IN THE RUSSIA-UKRAINE WAR

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ABSTRACT

The Russia-Ukraine War highlights the increasing role of private space actors in contemporary conflict. SpaceX's Starlink, the most popular of these private space actors, has supported Ukraine's military operations since the start of the conflict. Starlink's use, however, raises novel questions for the US and its legal obligations under outer space law, neutrality law and international humanitarian law. Under Article VI of the Outer Space Treaty, the US bears responsibility for Starlink's activities in Ukraine. While the US is currently meeting its obligations under the treaty, this article highlights areas of further development and potential grey zones with Starlink's continued use and status as a mega-constellation.

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Furthermore, the article asserts that US financial and strategic support for Ukraine's use of Starlink does not breach American neutrality principles, maintaining the US' status as a non-belligerent. Yet, the dual-use nature of Starlink satellites raises critical questions about their lawful targetability under international humanitarian law, which this article addresses using the two-part test for distinction. The test concludes that Starlink satellites supporting Ukrainian military operations are lawfully subject to attack by Russia. Overall, this article advances the academic discussion on the intersection of private space assets, state accountability, and armed conflict, while offering recommendations for policymakers and private entities to legally and knowledgeably navigate this increasingly complex and crucial domain.

I. INTRODUCTION

On February 24, 2022, Russian troops invaded Ukraine in a “flagrant violation of international law” and a “brutal act of war.”¹ Aside from sending shockwaves around the world and hinting at the end of the liberal world order,² the Russian invasion ushered in a new era for the role of space-based capabilities in warfare. Just hours before the invasion, Russia purportedly hacked into an American satellite company, ViaSat, and diminished communication capabilities in Ukraine, placing the Ukrainian military at a

¹ Scott Anderson, et al., *The World Reacts to Russia's Invasion of Ukraine*, LAWFARE (Feb. 25, 2022), <https://www.lawfaremedia.org/article/world-reacts-russias-invasion-ukraine> (last visited Jan. 5, 2026) (describing the world's reaction to the further Russian invasion of Ukraine. The Council of Europe, for example, described the invasion as a “flagrant violation of international law and the Statute of Council of Europe, and the principles and values it stands for.” While the NATO Secretary General Jens Stoltenberg called the Russian attack on Ukraine a “brutal act of war.”).

² Stefan Lehne, *After Russia's War in Ukraine: What Kind of World Order?*, CARNEGIE ENDOWMENT FOR INT'L PEACE (Feb. 21, 2023), <https://carnegieendowment.org/research/2023/02/after-russias-war-against-ukraine-what-kind-of-world-order?lang=en¢er=europe> (last visited Jan. 5, 2026) (“The West's hope for an international system based on democracy, rule of law, and multilateral cooperation—which has already lost plausibility in recent years—now looks wholly unrealistic.”). *See also*, Matthew Chance et al., *Peace in Europe 'Shattered' as Russia Invades Ukraine*, CNN (2022), <https://www.cnn.com/2022/02/24/europe/ukraine-russia-invasion-thursday-intl/index.html> (last visited Jan. 5, 2026) (describing that the Russian invasion ushered in a period of conventional warfare in Europe unseen since World War II).

disadvantage even before the formal start of the invasion.³ Despite Russia's faulty justifications of liberation and peacekeeping,⁴ scholars have largely converged in classifying this conflict as an international armed conflict (IAC) or a declared or *de facto* armed conflict between two or more sovereign States irrespective of Russia's categorization.⁵ While earlier wars, like the Persian Gulf War,⁶ have used space capabilities, none have featured outer space in such a pervasive manner.⁷ In Ukraine, space assets have contributed

³ See Patrick Howell O'Neill, *Russia Hacked an American Satellite Company One Hour Before the Ukraine Invasion*, MIT TECH. REV. (May 10, 2022), <https://www.technologyreview.com/2022/05/10/1051973/russia-hack-viasat-satellite-ukraine-invasion/> (last visited Jan. 6, 2026); See also, Michael Cornell, *The Role of Space in Russia's Operations in Ukraine*, CNA (2023), <https://www.cna.org/reports/2023/11/role-of-space-in-russia-operations-in-ukraine> (last visited Jan. 6, 2026) (offering a general discussion of Russia's use of space assets against Ukraine, generally).

⁴ Chance, et al., *supra* note 2 (outlining Putin's justification, in part, that Russia invaded Ukraine to serve as 'peacekeepers'); Thomas Sherlock, *Putin's Justification for War is Unraveling*, FOREIGN POL'Y, (Aug. 3, 2023), <https://foreignpolicy.com/2023/08/03/russia-ukraine-war-putin-prigozhin-wagner/> (last visited Jan. 6, 2026) ("According to Putin, Russia had to eliminate the dire threat of a hostile Ukraine armed by the West and guided by a fascist ideology nurtured by the United States.").

⁵ Michael N. Schmitt, *Ukraine Symposium – Classification of the Conflict(s)*, ARTICLES OF WAR (Dec. 14, 2022), <https://lieber.westpoint.edu/classification-of-the-conflicts/> (last visited Jan. 6, 2026) (outlining the forms of conflict and the differing treaty regimes that apply to international armed conflicts or non-international armed conflicts, classifying the conflict between Russia and Ukraine as an international armed conflict); *Russia, Ukraine, and International Law: On Occupation, Armed Conflict and Human Rights*, HUMAN RIGHTS WATCH (Feb. 23, 2022), <https://www.hrw.org/news/2022/02/23/russia-ukraine-international-law-occupation-armed-conflict-and-human-rights> (last visited Jan. 6, 2026) ("Hostilities between Russian armed forces and Ukrainian armed forces constitute an international armed conflict governed by international humanitarian treaty law (primarily the four Geneva Conventions of 1949 and its first additional protocol of 1977 (Protocol I), and the Hague Conventions of 1907 regulating the means and methods of warfare), as well as the rules of customary international humanitarian law."); *Russia-Ukraine International Armed Conflict: ICRC Continues to Help People in Need*, INT'L COMM. ON THE RED CROSS (June 6, 2023), <https://www.icrc.org/en/document/russia-ukraine-international-armed-conflict-icrc-continues-to-help-people-in-need> (last visited Jan. 6, 2026) (categorizing the Russia-Ukraine conflict as an IAC).

⁶ *Operations Desert Shield and Desert Storm Assessment*, US SPACE COMMAND, 47 (1992), available at <https://nsarchive2.gwu.edu/NSAEBB/NSAEBB39/document10.pdf> (last visited Jan. 6, 2026) (documenting the use of satellite telecommunications during the Gulf War).

⁷ Theodora Ogden, et al., *The Role of the Space Domain in the Russia-Ukraine War, The Impact of Converging Space and AI Technologies*, RAND (Mar. 4, 2024), https://www.rand.org/pubs/external_publications/EP70408.html (last visited Dec. 6, 2025) ("Access to, or denial of, communications can have decisive effects in any military

constantly, and in conflict-altering ways, since the beginning of the war.⁸ This pervasive use of outer space is unlikely to remain limited to Ukraine, but rather will be a common factor in many future conflicts.⁹

The war in Ukraine is not just unique for its use of space assets broadly, but also for the specific role played by *private* space actors and non-governmental entities that mobilized after the start of the invasion in support of Ukraine. Ukraine Deputy Prime Minister, Mykhailo Fedorov, famously posted on X (then, Twitter) for Elon Musk to send SpaceX's Starlink terminals to Ukraine.¹⁰ Mr. Fedorov called on "commercial satellite companies" to share imagery and data to Ukraine.¹¹ Private industry answered the call.¹² In

engagement. The conflict in Ukraine has shown the vital importance of SATCOM, PNT, and EO/ISR services to situational awareness and command and control (C2) on the modern battlefield."); Valentina Chabert, *The Outer-Space Dimension of the Ukraine Conflict: Toward a New Paradigm for Orbits as a War Domain*, 75 J. OF INT'L AFFAIRS, 145, 146 (2023) ("Yet, the current conflict between Russia and Ukraine presents novel elements in the use of space orbits as a realm of war in which the respective armies confront each other and from which specific destabilization operations are launched.").

⁸ Theodora Ogden, et al., *The Role of the Space Domain in the Russia-Ukraine War: The Impact of Converging Space and AI Technologies*, CENTRE FOR EMERGING TECH. AND SEC. (Feb. 23, 2024), <https://cetas.turing.ac.uk/publications/role-space-domain-russia-ukraine-war> (last visited Jan. 6, 2026) ("Alongside rapid innovation in artificial intelligence (AI) and drone technology, the conflict [in Ukraine] continues to demonstrate the profound and growing influence of outer space.").

⁹ Frans von der Dunk, *Space Privateers or Space Pirates? Armed Conflict, Outer Space, and the Attribution of Non-State Activities*, ARTICLES OF WAR (July 26, 2024), <https://lieber.westpoint.edu/space-privateers-pirates-outer-space-attribution-non-state-activities/> (last visited Jan. 6, 2026) (recognizing an "increasing involvement of private sector operators in military operations in outer space."); Nat'l Intel. Council, Office of the Dir. of Nat'l Intel., Pub. No. NIC-2021-02493, *The Future Battlefield*, 11 (2021), <https://www.dni.gov/index.php/gt2040-home/gt2040-deeper-looks/future-of-the-battlefield> (last visited Jan. 6, 2026) (emphasizing the role of space technology and services as "increasingly available" for military use).

¹⁰ Courtney Albon, *How Commercial Space Systems are Changing the Conflict in Ukraine*, C4ISRNET (Apr. 25, 2022), <https://www.c4isrnet.com/intel-geoint/2022/04/25/how-commercial-space-systems-are-changing-the-conflict-in-ukraine/> (last visited Jan. 6, 2026).

¹¹ *Id.*

¹² For example, Capella Space, a Startup in Silicon Valley, provided open-source satellite imaging to CNN and other news outlets to "track Russian units all the way to Kyiv." Raj Shah & Christopher Kirchhoff, *In Ukraine, We Saw a Glimpse of the Future of War*, THE ATLANTIC (July 3, 2024), <https://www.theatlantic.com/ideas/archive/2024/07/ukraine-defense-silicon-valley-technology/678876/> (last visited Jan. 6,

particular, SpaceX's Starlink—a satellite network enabling ground-based users and terminals—filled a crucial void, supplying nearly all core military functions for Ukraine, including: command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR).¹³

The growing role of SpaceX and private space actors in warfare raises important questions in international space and humanitarian law.¹⁴ First, in what ways do the actions of Starlink interact with United States (US) international legal obligations established through the Outer Space Treaty and other areas of international law? Next, how do private space actors influence the US status in the conflict, particularly its status as a neutral party? Academics have called for future scholarship and States to address these very questions, namely, disentangling the relationship between responsibility, neutrality and the US' provision of Starlink satellites, through SpaceX, to Ukraine.¹⁵ While scholars have started to address this question, their analysis stops short of tackling the recent changes in the type, manner and scope of support the US has

2026) ("In many cases, Silicon Valley strengthened Ukraine's military more quickly—and at far lower cost—than systems from established defense contractors.").

¹³ *How Elon Musk's Satellite Have Saved Ukraine and Changed Warfare*, THE ECONOMIST (Jan. 5, 2023), <https://www.economist.com/briefing/2023/01/05/how-elon-musks-satellites-have-saved-ukraine-and-changed-warfare> (last visited Jan. 6, 2026) (Of note, the US had provided support to Ukraine previously through other assets like GPS or even ViaSat—the capability that Russia targeted during the start of the invasion); See Robin Dickey & Michael P. Gleason, *Space and War in Ukraine: Beyond Satellites*, 3 AETHER: A J. OF STRATEGIC AIRPOWER & SPACEPOWER, 20, 25 (2024) ("Other commercial satellite companies provide Ukraine internet connectivity from space, including ViaSat, OneWeb, SES, Iridium, Immarsat, Eutelsat, and Avanti."); For the purposes of this article, the analysis remains largely contained to the fact-specific application of Starlink's role in Ukraine; however, the analytical process can apply to those other constellations, albeit with potentially different outcomes in the responsibility and neutrality analysis.

¹⁴ Von der Dunk, *supra* note 9 ("If armed conflicts resulting from different views on the extent to which private space operations in a military context are to be avoided, clarity on these issues needs to be established as soon as possible.").

¹⁵ See, e.g., Guoyu Wang, *The Complex Neutrality of Commercial Space Actors in Armed Conflict*, INT'L COMM. OF THE RED CROSS (Nov. 16, 2023), <https://blogs.icrc.org/law-and-policy/2023/11/16/the-complex-neutrality-of-commercial-space-actors-in-armed-conflict/> (last visited Jan. 6, 2026) ("Some critical legal matters need to be clarified though, for instance, whether the neutral state violates its neutrality obligations due to the involvement of its commercial actors in others' armed conflicts, and whether such violations would subsequently cause it to lose its neutral status and become a belligerent.").

provided to SpaceX.¹⁶ This article assesses not only the implications to the US' status as a Party (or not) to the conflict, but also whether it has satisfied its international legal obligations as a State responsible for SpaceX's activities in Ukraine. Crucially, this article challenges a recurrent theme from policy and law commentators that assert the US is in violation of its neutrality provisions through its support of Starlink to Ukraine.¹⁷ This article also takes the analysis

¹⁶ Tara Brown concludes her article by observing that “with a different set of facts a commercial actor could bring a non-state party into a conflict.” Since 2022, the facts have changed. This article addresses whether a changing fact pattern from 2022 to 2025 shifts the analysis on responsibility, neutrality, and targetability; *See* Tara Brown, *Ukraine Symposium – the Risk of Commercial Actors in Outer Space Drawing States into Armed Conflict*, ARTICLE OF WAR (July 8, 2022), <https://lieber.westpoint.edu/commercial-actors-outer-space-armed-conflict/> (last visited Jan. 6, 2026); *See also* JACK BEARD AND DALE STEPHENS, THE WOOMERA MANUAL ON THE INTERNATIONAL LAW OF MILITARY SPACE ACTIVITIES AND OPERATIONS 399 (2024) [hereinafter *Woomera Manual*] (“The fundamental principles of the law of neutrality apply to military space operations during international armed conflict, although the precise application of these principles from, to, or within space is yet to be determined.”).

¹⁷ *See* Lukasz Olejnik, *The Outer Space Treaty and Promoting Responsible Use of Outer Space*, JUST SECURITY (June 7, 2023), <https://www.justsecurity.org/86823/the-outer-space-treaty-and-promoting-responsible-use-of-space/> (last visited Jan. 6, 2026) (“A little-known Cold War treaty on outer space operations could draw the United States into direct conflict with Russia.”); Jimmy Gutzman, *State Responsibility for Non-State Actors in Times of War: Article VI of the Outer Space Treaty and the Law of Neutrality*, 80 THE AIR FORCE L. REV., 87, 89 (2019) (“This article argues that there should be a higher threshold than the plain text reading of Article VI of the Outer Space Treaty would indicate for States to be declared belligerents if their non-State actors provide space-based services to a State at war.”); Wang, *supra* note 15, (“[s]ome critical legal matters need to be clarified through, for instance, whether the neutral state violates its neutrality obligations due to the involvement of its commercial actors in others’ armed conflicts, and whether such violations would subsequently cause it to lose its neutral status and become a belligerent.”); Timothy Goines, et al., *The Russia-Ukraine War and the Space Domain*, ARTICLES OF WAR (Mar. 14, 2022), <https://lieber.westpoint.edu/russia-ukraine-war-space-domain/> (last visited Jan. 6, 2026) (identifying US neutrality as a key question concerning the provision of SpaceX infrastructure to Ukraine); Brown, *supra* note 16 (arguing that “the provision of Starlink services does not undermine either traditional or qualified neutrality”). Other scholars, outside of the space context, have argued that the United States could also be violating its neutrality in Ukraine through intelligence sharing, emphasizing the data that space capabilities provide; *See, e.g.*, Michael N. Schmitt, *Ukraine Symposium—Are We at War?*, ARTICLES OF WAR (May 9, 2022), <https://lieber.westpoint.edu/are-we-at-war/> (last visited Jan. 6, 2026) (arguing that tactical and operational level intelligence could, at times, amount to a use of force under international law and thereby implicate a State’s neutrality); *But see* Michael N. Schmitt, *Providing Arms and Material to Ukraine: Neutrality, Co-Belligerency, and the Use of Force*, ARTICLES OF WAR (Mar. 7, 2022), <https://lieber.westpoint.edu/ukraine-neutrality-co-belligerency-use-of-force/> (last visited Dec. 6, 2025) (“First, the mere provision of arms and other material support to

a step further, arguing that, although the financial support for Starlink does not implicate the US as a party to the conflict, SpaceX assets could still be lawfully targeted by Russia under international humanitarian law.

Now, more than ever, these questions require clarification. Given the closeness, at the time, between President Donald Trump and SpaceX CEO Elon Musk,¹⁸ understanding the company's involvement in the ongoing conflict and the potential ramifications for the US has never been more pressing. Private space actors will continue to grow in importance in the outer space domain,¹⁹ and understanding their role, impacts, and ramifications in international law is crucial for not only the States to which their activities are attributable but also to the CEOs and investors in the companies themselves.

Part II updates the literature on the role of SpaceX in Ukraine. While most of the existing literature focuses on the immediate impacts of the invasion, this article outlines a more up to date snapshot of US, SpaceX and Starlink involvement in Ukraine. Part III unpacks the legal obligations of the US under international space law. It argues that while the US is legally responsible for SpaceX involvement in Ukraine, it is meeting its independent obligations as required by the Outer Space Treaty's Article VI. Moreover, this legal assessment articulates the mechanisms by which the US is responsible for SpaceX's behavior.

Part IV goes further and addresses the implications of US responsibility for Starlink in Ukraine from a neutrality law perspective. It argues that despite the US' growing involvement with SpaceX and Starlink investment, it is still not a party to the conflict,

Ukraine's armed forces does not, standing alone, mean the supporting States are parties to an IAC with Russia.”).

¹⁸ Kaitlan Collins, *Elon Musk Exerts Deepening Influence on Donald Trump's Presidential Transition*, CNN (Nov. 10, 2024), <https://www.cnn.com/2024/11/10/politics/musk-trump-influence-transition> (last visited Jan. 6, 2026) (describing the close relationship between Elon Musk and Donald Trump).

¹⁹ Nikolai Khlystov and Gayle Markovitz, *Space is Booming. Here's How to Embrace the \$1.8 Trillion Opportunity*, WORLD ECON. FORUM (Apr. 8, 2024), <https://www.weforum.org/stories/2024/04/space-economy-technology-invest-rocket-opportunity/#:~:text=1.,growth%20rate%20of%20global%20GDP> (last visited Jan. 6, 2026) (“By 2035, the space economy is set to reach \$1.8 trillion, up from \$630 billion in 2023 and averaging a growth rate of 9% per annum – a figure significantly above the growth rate of global GDP.”).

nor has it violated its neutrality obligations. Nonetheless, this article finds that the Starlink satellites are still legally targetable by Russia in certain circumstances. Given the complicated confluence of different legal regimes, this article concludes with a series of recommendations, particularly for the private sector and government policymakers as the US, industry and international partners navigate a changing battlefield.

II. THE ROLE OF SPACEX AND STARLINK IN THE RUSSIA-UKRAINE CONFLICT

On February 24, 2022, Russian President Vladimir Putin launched a comprehensive military invasion of Ukraine spanning all domains, including air, land and sea, to strike across the Ukrainian border and engage in a level of conventional warfare in Europe in a manner and intensity not seen since World War II.²⁰ The war in Ukraine is an international armed conflict – a declared or *de facto* armed conflict between two or more sovereign States – under international law.²¹ Another irrefutable aspect of the struggle is the immense loss suffered during the multi-year war, with the casualties eclipsing more than one million people killed or wounded.²² Earlier wars have exceeded the human toll sustained thus far;²³ however,

²⁰ Chance, et al., *supra* note 2.

²¹ Schmitt, *Classification of the Conflict(s)*, *supra* note 5; Human Rights Watch, *supra* note 5; Int'l Comm. on the Red Cross, *supra* note 5. The Geneva Conventions are a series of four treaties that set out the rules and laws applicable during wartime, or international humanitarian law. All four treaties have a common Article 2. *See, e.g.*, Convention Relative to the Treatment of Prisoners of War art. 2, Aug. 12, 1949, 6 UST. 3316, 75 U.N.T.S. 135 [hereinafter Geneva Conventions, when referring to common Article 2] (“In addition to the provisions which shall be implemented in peacetime, the present Convention shall apply to all cases of declared war or of any other armed conflict which may arise between two or more of the High Contracting Parties, *even if the state of war is not recognized by one of them.*”) (emphasis added).

²² Bojan Pancevski, *One Million Are Now Dead or Injured in the Russia-Ukraine War*, WALL STREET JOURNAL (Sept. 17, 2024), <https://www.wsj.com/world/one-million-are-now-dead-or-injured-in-the-russia-ukraine-war-b09d04e5> (last visited Jan. 6, 2026).

²³ *Mobilized Strength and Casualty Losses*, LIBRARY OF CONGRESS, <https://www.loc.gov/collections/world-war-i-rotogravures/articles-and-essays/events-and-statistics/mobilized-strength-and-casualty-losses/> (last visited Jan. 6, 2026) (World War I had approximately 50 million casualties); *Researcher Starters: Worldwide Deaths in World War II*, THE NAT'L WORLD WAR II MUSEUM—NEW ORLEANS, <https://www.nationalww2museum.org/students-teachers/student-resources/research-starters/research->

the scale, near-constant use and reliance on private industry in Ukraine make this manifestation of space in warfare distinguishable from earlier uses.²⁴

Using space in war is not new. Spacefaring nations militarized space with the launch of Sputnik in 1957.²⁵ Yet it took until the 1991 Persian Gulf War to witness space's debut as an all-inclusive factor that enabled air, land and sea operations during hostilities:

US-led Coalition forces launched the world's first "space war" when they drove Iraqi troops out of Kuwait. Although the actual fighting did not take place in the upper reaches of the atmosphere, satellite-based global positioning systems (GPS) played a critical role in the Coalition's rapid dismantling of Saddam Hussein's military during the 1991 Persian Gulf War. Without their orbiting eyes in the sky US troops in particular would have had a much more difficult time navigating, communicating and guiding their weapons across the hundreds of kilometers of inhospitable, windswept desert battlefields in Kuwait and Iraq.²⁶

While humans have been attacking and conquering each other for millennia,²⁷ the advent of space-enabled warfare is an ongoing paradigm shift in *how* battles are fought, on par with the inventions

starters-worldwide-deaths-world-war (last visited Jan. 6, 2026) (World War II had approximately 15 million battle deaths).

²⁴ Ogden, et al., *supra* note 8 ("The battlefields of Ukraine have also become sites of rapid innovation, experimentation, and adaptation, including in the combination of commercial SATCOM, EO and PNT"); Albon, *supra* note 10 ("The war in Ukraine is certainly not the first major conflict where commercial space capabilities have been a feature, but experts say advances in technology have enabled these systems to play a much larger role than in the past.").

²⁵ *Sputnik and the Dawn of the Space Age*, NASA (Oct. 10, 2007), <https://www.nasa.gov/history/sputnik/index.html> (last visited Jan. 6, 2026); STEVE MIRMINA & CARYN SCHENEWERK, *INTERNATIONAL SPACE LAW AND SPACE LAWS OF THE UNITED STATES* 4 (2022).

²⁶ Larry Greenemeier, *GPS and the World's First "Space War,"* SCI. AM. (Feb. 8, 2016), <https://www.scientificamerican.com/article/gps-and-the-world-s-first-space-war/> (last visited Jan. 6, 2026).

²⁷ STEVEN PINKER, *THE BETTER ANGELS OF OUR NATURE* (1st ed. 2011) (describing warfare throughout human history, but emphasizing a general decline in overall violence across humanity largely attributable to nation-state monopolies on force, commerce, literacy, and communication).

of the spear, gunpowder and the airplane.²⁸ But even in the Gulf War and in Operation Iraqi Freedom,²⁹ the space capabilities were inherently tied to government actors and subject to oversight far more stringent than that imposed on commercial entities.³⁰

By contrast, a defining feature of the Russia-Ukraine War has been the predominant use of private commercial space-based capabilities,³¹ with companies such as SpaceX providing essential services through Starlink to Ukrainian forces.³² While this article focuses specifically on SpaceX and Starlink, the rise of private, non-governmental actors providing space-based services and capabilities in conflicts will only become more common. This analysis applies to future space-service providers, but the facts here turn on the unique nature of the US-SpaceX-Ukraine relationship.

Starlink is a satellite mega-constellation that provides “high-speed internet access to remote and underserved areas of the world, including rural and low-income communities.”³³ Owned and operated by SpaceX, the company founded by Elon Musk, Starlink uses thousands of small satellites orbiting only a few hundred miles above the Earth to provide fast speed, low latency, global coverage.³⁴ First deployed in May 2019, and reaching more than 6,000

²⁸ Gabe Arrington & Justin W. Chandler, *How Space is Changing the Nature of War*, THE HILL (Feb. 8, 2022), <https://thehill.com/opinion/technology/593411-how-space-is-changing-the-nature-of-war/> (last visited Jan. 6, 2026) (describing a contract with the Air Force Research Laboratory (AFRL) and SpaceX for global space-based delivery, as “chang[ing] the nature of warfare.”).

²⁹ Robert S. Dudley, *Space Power in the Gulf*, AIR & SPACE FORCES MAG. (June 1, 2023), <https://www.airandspaceforces.com/article/0603edit/> (last visited Jan. 6, 2026) (“Space has long been viewed as a key support asset, but the latest war [The Iraq War] showed space power has advanced beyond that stage.”).

³⁰ US Space Command, *supra* note 6 (Outlining that over 80% of satellite communication used during Desert Storm and Shield were through governmental, rather than commercial, means.).

³¹ Albon, *supra* note 10 (“The war in Ukraine is certainly not the first major conflict where commercial space capabilities have been a feature, but experts say advances in technology have enabled these systems to play a much larger role than in the past.”).

³² Chabert, *supra* note 7, at 145 (Describing that Russia and Ukraine “have employed space orbits as a complementary domain” since the start of the conflict).

³³ *What is Starlink?*, NEW SPACE ECON., <https://newspaceconomy.ca/2023/03/07/starlink-a-quick-overview/> (last visited Jan. 6, 2026).

³⁴ *Id.* Starlink Satellites operate in low earth orbit (LEO) or an orbit that is an altitude of approximately 1000km or less to the Earth. This orbit is close enough for easier transportation and communication with Earth systems. Unlike other satellite orbits, like geostationary orbit, LEO satellites have greater routes available and can support more flexible orbital placements; See The European Space Agency, *Low Earth Orbit*,

Starlink satellites in orbit by January 2025, the complete constellation aims to deploy 42,000 operational satellites.³⁵ For perspective, as of November 2022, only 14,450 satellites *had ever been launched*.³⁶ SpaceX's goal will triple the number of satellites launched in the history of humankind in only a handful of years.³⁷ By mid-2024, Starlink provided internet access to nearly 3 million subscribers in 75 countries, with strong future growth projections.³⁸

Russia knew the importance of space-based connectivity as it prepared for its invasion of Ukraine,³⁹ though it likely did not anticipate SpaceX's crucial role. In the hour preceding the invasion, Russia successfully hacked ViaSat,⁴⁰ a US-based satellite company providing front line military communications for Ukraine and thousands of internet access points spanning Europe.⁴¹ Knowing the

ESA (Feb. 3, 2020), https://www.esa.int/ESA_Multimedia/Images/2020/03/Low_Earth_orbit (last visited Jan. 6, 2026).

³⁵ Tereza Pultarova, et al., *Starlink Satellites: Facts, Tracking and Impact on Astronomy*, SPACE.COM (Jan. 9, 2025), <https://www.space.com/spacex-starlink-satellites.html> (last visited Jan. 6, 2026).

³⁶ *Id.*

³⁷ *Id.*

³⁸ Sandra Erwin, *Starlink Soars: SpaceX's Satellite Internet Surprises Analysts With \$6.6 Billion Revenue Projection*, SPACENEWS.COM (Mar. 9, 2024), <https://space-news.com/starlink-soars-spacexs-satellite-internet-surprises-analysts-with-6-6-billion-revenue-projection/> (last visited Jan. 6, 2026).

³⁹ Chabert, *supra* note 7, at 145 (describing that both Russia and Ukraine used space-based capabilities since the outbreak of hostilities); Ron Gurantz, *Satellites in the Russia-Ukraine War*, STRATEGIC STUDIES INSTITUTE, 5 (2024), https://media.defense.gov/2024/Aug/21/2003529805/-1/-1/0/20240822_Gurantz_Satellites_Online_b%201.PDF (last visited Jan. 6, 2026) ("Russian theory and doctrine also view access to space-based communication and surveillance, and denial of the same to its opponents, as a source of military advantage, though Russia's capabilities appear to be far behind those of the United States and China.").

⁴⁰ O'Neill, *supra* note 3. Crucially, ViaSat is also a non-governmental company, which Ukraine relied upon for military communications prior to SpaceX's support after the start of the conflict. Despite this reliance, the use of ViaSat largely occurred during peacetime and in the absence of an international armed conflict. Moreover, SpaceX mobilized and provided support *specifically* to aid Ukraine in conflict rather than ViaSat, which provided its support during peacetime. Hence, while Ukraine has relied on other private actors for space-enabled services, SpaceX is unique in the scale, timing, and type of support it has provided to the Ukrainian military during its international armed conflict with Russia.

⁴¹ Christopher Miller et al., *How "Starlink" Saved Ukraine; Kiev's Troops Rely on US Entrepreneur Elon Musk's Satellites. Insights into Details of the Coveted System*, POLITIK (June 21, 2022), <https://plus.lexis.com/document/index?crd=709a4ac1-43a3-407e-ba3e-77103b3ab2e2&pdpermalink=79873cda-b793-4d8d-978e-c820e377dc59&pdmfid=1530671&pdisurlapi=true#/document/8812f975-afdf-4fb6-b3bd->

vital nature of these functions in modern warfare, Ukraine's deputy prime minister Mykhailo Fedorov pleaded for help via X (then, Twitter) roughly 48 hours post-invasion:⁴²

@elonmusk, while you try to colonize Mars—Russia try [sic] to occupy Ukraine! While your rockets successfully land from space—Russian rockets attack Ukrainian civil people! We ask you to provide Ukraine with Starlink stations and to address sane Russians to stand.⁴³

By the end of the day, Musk notified Fedorov that not only had SpaceX activated Starlink service to Ukraine, his company was preparing to send ground-based terminals to the besieged nation.⁴⁴ Shortly thereafter, Fedorov posted a photo displaying a trailer filled with the newly arrived Starlink equipment.⁴⁵ Less than four months later, Fedorov announced “we have more than 11,000 Starlink stations, and they help us in the daily fight on all fronts . . . [W]e are able—even if there is no light or stable internet—to restore any connection in Ukraine.”⁴⁶

Starlink quickly filled, and exceeded, the void left by ViaSat, fueling nearly all core military functions, including C4ISR.⁴⁷ Now, Ukrainian forces use Starlink to upload target imaging, encrypt senior commander messages and operate entire drone fleets.⁴⁸ Moreover, because of Starlink's relatively low orbit and the sheer volume of satellites, Russian attempts to jam and disrupt services

bfdde588dbb1 (last visited Jan. 6, 2026) (original in German, translation available from the authors upon request); *See also* O'Neill, *supra* note 3.

⁴² Miller, et al., *supra* note 41.

⁴³ Ed Browne, *Ukraine VP Mykhailo Fedorov Thanks Elon Musk as 2nd Starlink Shipment Arrives*, NEWSWEEK (Mar. 10, 2022), <https://www.newsweek.com/mykhailo-fedorov-ukraine-elon-musk-spacex-starlink-delivery-1686726> (last visited Jan. 6, 2026).

⁴⁴ Wes J. Bryant, *When a CEO Plays President: Musk, Starlink, and the War in Ukraine*, IRREGULARWARFARE (Oct. 17, 2023), <https://irregularwarfare.org/articles/when-a-ceo-plays-president-musk-starlink-and-the-war-in-ukraine/> (last visited Jan. 6, 2026).

⁴⁵ *See* Graeme Massie, *Ukraine Minister Posts Photos of Starlink's Arrival in Country and Thanks Elon Musk*, INDEPENDENT (Feb. 28, 2022), <https://www.independent.co.uk/news/world/europe/starlink-service-ukraine-elon-musk-b2025338.html>.

⁴⁶ Miller et al., *supra* note 41.

⁴⁷ C4ISR stands for Command, control, communications, computers, intelligence, surveillance, and reconnaissance.

⁴⁸ The Economist, *supra* note 13.

have largely failed.⁴⁹ A Ukrainian soldier perhaps put it best: “Starlink is our oxygen,” and without it, “our army would collapse into chaos.”⁵⁰

Yet, only seven months into the conflict, that oxygen valve nearly shut. Musk publicly complained about his company’s charitable bill incurred by running the approximately 20,000 Starlink units used in Ukraine.⁵¹ Citing financial unsustainability, SpaceX requested that the US Department of Defense (DoD) completely assume payment for Starlink service to the Ukrainian government, which SpaceX estimated would cost roughly \$400 million over the next year.⁵² SpaceX reports showed an understandable yet insatiable appetite by Ukraine for more terminals and services overlaid against a decreasing ability for SpaceX, a for-profit company, to continue carrying the financial burden.⁵³

While Musk vacillated in the days following the public demand on whether SpaceX would continue donating the service, conflicting reports indicated that the US, United Kingdom and Poland already paid for more than 80 percent of the capability.⁵⁴ Yet, the long-term sustainability of such an arrangement was no doubt in question. After European countries announced new funding in late 2022,⁵⁵

⁴⁹ *Id.* See also Chabert, *supra* note 7, at 146 (“However, the increasingly complex network of satellites in low orbit [Starlink] and the ineffectiveness of cybernetic operations” show that States will have to rely on other deterrence operations that could include disabling or destroying satellites themselves rather than relying on jamming to stop operations); Gurantz, *supra* note 39 (“Russia has been unable to prevent the widespread use of Starlink, despite having anti-satellite missiles and systems for jamming traditional communication satellites. General B. Chance Saltzman, US Space Force chief of space operations, has said the Russians have tried to jam Starlink and failed due to its architecture.”).

⁵⁰ The Economist, *supra* note 13.

⁵¹ Alex Marquardt, *Exclusive: Musk’s SpaceX Says It Can No Longer Pay for Critical Satellite Services in Ukraine, Asks Pentagon to Pick Up the Tab*, CNN (Oct. 14, 2022), <https://www.cnn.com/2022/10/13/politics/elon-musk-spacex-starlink-ukraine/index.html> (last visited Jan. 6, 2026).

⁵² *Id.*

⁵³ *Id.*

⁵⁴ Amritha Jayanti, *Starlink and the Russia-Ukraine War: A Case of Commercial Technology and Public Purpose?*, BELFER CENTER FOR SCIENCE AND INT’L AFFAIRS (Mar. 9, 2023), <https://www.belfercenter.org/publication/starlink-and-russia-ukraine-war-case-commercial-technology-and-public-purpose> (last visited Jan. 6, 2026) (outlining that 85% of terminals and 30% of internet connectivity was already paid for by the United States (USAID), Poland, and other actors); Marquardt, *supra* note 51.

⁵⁵ Jon Brodtkin, *Ukraine To Get 10,000 More Starlink Antennas; Funding Problems Are “Resolved,”* ARS TECHNICA (Dec. 20, 2022), <https://arstechnica.com/tech->

and a controversial interruption in service in spring 2023,⁵⁶ the Pentagon announced on June 1, 2023 that it had officially contracted with SpaceX to provide Starlink services to Ukraine.⁵⁷ This announcement publicly formalized the DoD's financial support of this crucial Ukrainian military-sustaining capability and removed anxiety over the future of the service.⁵⁸ Despite the US' reluctance to disclose the contract dollar amount, later reports estimate the value at \$23 million.⁵⁹

The financial support has continued without interruption, with the US extending its contract with SpaceX in June 2024 for six more months (despite Polish assertions that they paid entirely for SpaceX services).⁶⁰ The subsequent US deal, estimated at \$14.1 million, provides the satellite constellation, hardware and customer support services.⁶¹ While this contract is a relatively small outlay considering all current US contracts with SpaceX total roughly \$2.5 billion,⁶² it nonetheless means the US persists in sponsoring a key war-enabling function for the Ukrainian government and military.

Moreover, the US does *not* merely serve as a silent partner or pass-through entity, writing the checks to SpaceX on Ukraine's behalf without any further involvement; rather, US officials exert more tactical-level influence.⁶³ In September 2023, US government

policy/2022/12/starlink-will-send-another-10000-satellite-terminals-to-ukraine/ (last visited Jan. 6, 2026).

⁵⁶ Audrey Decker, *Pentagon Buying Musk's Starlink for Ukraine*, DEFENSE ONE (June 1, 2023), <https://www.defenseone.com/policy/2023/06/pentagon-buying-musks-starlink-ukraine/387022/> (last visited Jan. 6, 2026).

⁵⁷ Mike Stone & Joey Roulette, *SpaceX's Starlink Wins Pentagon Contract for Satellite Services to Ukraine*, REUTERS (June 1, 2023), <https://www.reuters.com/business/aerospace-defense/pentagon-buys-starlink-ukraine-statement-2023-06-01/> (last visited Jan. 6, 2026).

⁵⁸ *Id.*; Decker, *supra* note 56; Dam Lamothe, *Pentagon Discloses it's Paying for Elon Musk's Starlink Internet in Ukraine*, THE WASH. POST (June 1, 2023), <https://www.washingtonpost.com/national-security/2023/06/01/starlink-ukraine-pentagon-elon-musk/> (last visited Jan. 6, 2026).

⁵⁹ *SpaceX Contract to Supply Starlink in Ukraine is Worth \$23 Million*, MENAFN (Apr. 9, 2024), <https://menafn.com/1108078034/SpaceX-Contract-To-Supply-Starlink-In-Ukraine-Is-Worth-23-Million> (last visited Jan. 6, 2026).

⁶⁰ *Id.*

⁶¹ *Id.*

⁶² *Id.*

⁶³ Sandra Erwin, *Senate Armed Services Committee to Probe Starlink Operations in Ukraine*, SPACENEWS (Sept. 14, 2023), <https://spacenews.com/senate-armed-services-committee-to-probe-starlink-operations-in-ukraine/> (last visited Jan. 6, 2026).

officials were outraged⁶⁴ at the revelation that Musk may have temporarily shut down the Ukrainian military's use of Starlink during Ukraine's surprise drone attack in Crimea the previous year due to Musk's personal, speculative concerns regarding Russia's potential use of nuclear weapons in response to said attack.⁶⁵ While there was no allegation SpaceX violated any agreement – at the time no contract was in place mandating service provision – US lawmakers pledged to reevaluate contractual relationships with SpaceX in light of this one man's ability to freeze a partner nation's war effort, and, potentially, provide aid to a rogue, belligerent aggressor State.⁶⁶

Moreover, in February 2024, news outlets reported that Russia had utilized thousands of Starlink terminals acquired on the black market.⁶⁷ US legislative and executive branches quickly responded. During a Senate Armed Services Committee hearing on the matter, testimony revealed SpaceX had been voluntarily working hand-in-hand with the Department of Defense to identify, and then immediately shut down, any Starlink terminals in use by Russian forces.⁶⁸ Whether SpaceX's energetic cooperation was borne out of fear of violating US sanctions “aimed at crippling Russia's military capabilities,”⁶⁹ a for-profit company's overarching desire to keep perhaps its biggest customer happy, or persistent goodwill towards the Ukrainian effort, the fact remains that the US military worked

⁶⁴ *Id.*

⁶⁵ Julian Borger, *Elon Musk Ordered Starlink to Be Turned Off During Ukraine Offensive, Book Says*, THE GUARDIAN (Sept. 9, 2023), <https://www.theguardian.com/technology/2023/sep/07/elon-musk-ordered-starlink-turned-off-ukraine-offensive-biography> (last visited Jan. 6, 2026); *But see* Ella Creamer, *Elon Musk Biographer Admits to Suggestion SpaceX Head Blocked Ukraine Drone Attack Was Wrong*, THE GUARDIAN (Sept. 12, 2023), <https://www.theguardian.com/books/2023/sep/12/elon-musk-biographer-admits-suggestion-spacex-head-blocked-ukraine-drone-attack-was-wrong> (last visited Jan. 6, 2026) (specifying that the policy was not to have Starlink activated in Crimea and that Elon Musk was maintaining that policy and refused Ukraine's request to turn on Starlink connectivity in the region rather than turning it off).

⁶⁶ Erwin, *supra* note 63.

⁶⁷ Reuters, *Russia Using Thousands of SpaceX Starlink Terminals*, REUTERS (Feb. 15, 2024), <https://www.reuters.com/world/europe/russia-using-thousands-spacex-starlink-terminals-ukraine-wsj-says-2024-02-15/> (last visited Jan. 6, 2026).

⁶⁸ Sandra Erwin, *Pentagon Working with SpaceX to Cut Off Russian Military's Illicit Use of Starlink Internet*, SPACENEWS (Mar. 21, 2024), <https://spacenews.com/pentagon-working-with-spacex-to-cut-off-russian-militarys-illicit-use-of-starlink-internet/> (last visited Jan. 6, 2026).

⁶⁹ *Id.*

alongside SpaceX to ensure only one belligerent in an international armed conflict could use Starlink to support its ongoing war effort.

III. STATE RESPONSIBILITY FOR PRIVATE ACTORS IN OUTER SPACE

A. *Responsibility Under International Space Law*

Responsibility in outer space differs from responsibility in general international law. International space law sets a higher standard of responsibility for States than in other areas of international law.⁷⁰ Article VI of the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (the Outer Space Treaty or OST) governs responsibility for private actors in outer space. The Outer Space Treaty, signed, ratified, and entered into force in 1967,⁷¹ is the lodestar of outer space law.⁷² The OST provides the “basic framework on international space law,”⁷³ and

⁷⁰ This distinction is in part because of the different viewpoints of the United States and the Soviet Union. The Soviet Union opposed private actors in outer space, while the United States desired to preserve the ability for private activity in outer space. Article VI resulted from those competing interests; *See* MIRMINA & SCHENEWERK, *supra* note 25, at 42 (“Article VI of the OST exemplifies a successful negotiation of the US and USSR’s very different perspectives.”); *See* Frans von der Dunk, *The Origins of Authorization: Article VI of the Outer Space Treaty and International Space Law*, in NATIONAL SPACE LEGISLATION IN EUROPE: ISSUES OF AUTHORISATION OF PRIVATE SPACE ACTIVITIES IN THE LIGHT OF DEVELOPMENTS IN EUROPEAN SPACE COOPERATION 2 (F. von der Dunk, ed., 2011) (“The mutual need, even desire, to arrive at a workable solution in order not to put the whole process of arriving at a comprehensive legal regime for space activities at risk, in the end gave rise to a compromise that is best captured by: “private activity but public responsibility.”) [hereinafter *Origins of Authorization*].

⁷¹ *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies*, US DEPT OF STATE, <https://2009-2017.state.gov/t/isn/5181.htm> (last visited Jan. 6, 2026) (“On April 25 [of 1967] the Senate gave unanimous consent to its [the Outer Space Treaty’s] ratification, and the Treaty entered into force on October 10, 1967.”).

⁷² Christian Robison, *Changing Responsibility for A Changing Environment*, 5 U. OF BOLOGNA L. REV., 1, 5 (2020) (“The Outer Space Treaty is considered the foundational document of the space law regime.”); Von der Dunk, *Origins of Authorization*, *supra* note 70, at 8 (describing the Outer Space Treaty as the Magna Carta for outer space and laid the “groundwork for all the legal rules pertaining to the conduct of space activities that were to follow.”).

⁷³ *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies*, UN OFFICE FOR OUTER

outlines core international space law principles. These core principles include: that the exploration and use of outer space shall be for the benefit of humankind; that it is not subject to national appropriation or claims of sovereignty; that States shall not place weapons of mass destruction or nuclear weapons in orbit or on celestial bodies; that States shall act with due regard for the interests and space activities of other States, and, among other obligations, that States are responsible for the national space activities of their non-governmental actors.⁷⁴ Article VI outlines this responsibility for private actors and reads:

States Parties to the Treaty shall bear international responsibility for national activities in outer space, including the moon and other celestial bodies, whether such activities are carried on by governmental agencies or by non-governmental entities, and for assuring that national activities are carried out in conformity with the provisions set forth in the present Treaty. The activities of non-governmental entities in outer space, including the moon and other celestial bodies, shall require authorization and continuing supervision by the appropriate State Party to the Treaty. When activities are carried on in outer space, including the moon and other celestial bodies, by an international organization, responsibility for compliance with this Treaty shall be borne both by the international organization and by the States Parties to the Treaty participating in such organization.⁷⁵

The OST's Article VI has been the subject of much academic discussion.⁷⁶ The Article divides its requirements into three

SPACE AFFS., <https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/introouter-spacetreaty.html> (last visited Jan. 6, 2026).

⁷⁴ *Id.* As discussed at length below, responsibility and liability are distinct concepts, with this Article focusing on the former. The OST recognizes this distinction, establishing state responsibility in Article VI and State liability in Article VII.

⁷⁵ Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, art. VI, Jan. 27, 1967, 610 U.N.T.S. 205 [hereinafter Outer Space Treaty or OST].

⁷⁶ In fact, a comprehensive review of outer space law in the *Cologne Commentary* spends nearly seventy pages breaking down this Article. See MICHAEL GERHARD, COLOGNE COMMENTARY ON SPACE LAW: OUTER SPACE TREATY, 373-437 (Stephen Hobe, et.al, eds., 1st ed. 2009). See also Jonathan Lim, *The Future of the Outer Space Treaty – Peace and Security in the 21st Century*, 4 GLOBAL POL. REV. (2018) (discussing the feasibility of treaty amendments); Zach Miller, *The Great Unknown of the Outer Space*

components: (1) that States bear international responsibility for national activities in outer space, to include the national activities of non-governmental entities; (2) that States must ensure that their national activities, and those of non-governmental entities, act in conformity with the obligations set forth in the Outer Space Treaty specifically and international law more generally; and (3) that States must authorize and continuously supervise the activities of non-governmental entities in outer space.⁷⁷ Each component will be discussed in turn.

i. States Bear International Responsibility for National Activities in Outer Space

Article VI establishes that States “bear international responsibility for national activities in outer space” regardless of whether those activities are “carried on by governmental agencies or by non-governmental entities.”⁷⁸ Article VI imputes to States an “answerability for compliance with [its] legal duties, and for any breaches thereof.”⁷⁹ Within this general framework of answerability, responsibility is further delineated into two components.⁸⁰ The first mandates that State Parties must be “held internationally accountable”

Treaty: Interpreting the Term Outer Space, 46 DENV. J. INT'L. & POL'Y 349 (2018) (discussing the difficulty and ambiguities in understanding the term outer space); Stephen Gorove, *Interpreting Article II of the Outer Space Treaty*, 37 FORDHAM L. REV. 349 (1969) (completing a textual analysis on the difficulties in interpreting Article II of the Outer Space Treaty); Robison, *supra* note 72, at 5 (Identifying the debate between the “traditional” and evolving interpretation of OST Article VI).

⁷⁷ Brown, *supra* note 16 (highlighting these three distinct obligations from Article VI); Scarlet O'Donnell, *International Responsibility for Activities in Outer Space in the Modern Space Age: Article VI of the Outer Space Treaty in the context of international space law and public international law* 33 (Dec 2023) (Doctor Thesis, Lund University) (on file with the Lund University) (“The text of the provision [OST Article VI] is composed of three sentences, which are interconnected, but also illustrate respective aspects of the legal regulation of activities in outer space individually.”).

⁷⁸ Outer Space Treaty, *supra* note 75, art. VI.

⁷⁹ Bin Cheng, *Article VI of the Outer Space Treaty Revisited: “International Responsibility,” “National Activities,” and “The Appropriate State,”* 26 J. SPACE LAW 7, 9 (1998).

⁸⁰ Gutzman, *supra* note 17, at 95.

for “all ‘national activities’”⁸¹ in outer space.⁸² While the OST does not define “national activities”⁸³ or “appropriate State,”⁸⁴ a commonly referenced view equates that all “non-governmental national space activities are assimilated to governmental space activities;” however, this view is increasingly subject to debate. Scholars and States have converged around a definition that all “non-governmental national space activities are assimilated to governmental space activities.”⁸⁵ State practice also supports an understanding that national activities are typically those activities that occur within the jurisdiction of the State or conducted by its citizens, to include private corporations.⁸⁶

The scope and manner of responsibility for non-State actors has been heavily debated, and the academic literature has converged on three competing interpretations.⁸⁷ One perspective, the

⁸¹ The meaning and scope of “national activities” in the context of OST Article VI produced much academic debate; *See, e.g.*, Frans G. von der Dunk, *Scoping National Space Law: The True Meaning of ‘National Activities in Outer Space’ of Article VI of the Outer Space Treaty*, Proceedings of the International Institute of Space Law 229-231 (P.J. Blount, et al., ed., 2019); GERHARD, *supra* note 76, at 390-91 (“An activity is considered to be a national activity if it is undertaken from one agency or entity alone, but also if it is undertaken from several agencies or entities within an international co-operation. . . .”).

⁸² Gutzman, *supra* note 17, at 95.

⁸³ *See* discussion *supra* note 81.

⁸⁴ GERHARD, *supra* note 76, at 412 (understanding appropriate state as the State “that is appropriate to authorize non-governmental activities in outer space”).

⁸⁵ Cheng, *supra* note 79, at 14. *See also*, Steven E. Bartz, *Reframe: A New Interpretive Framework for Non-Governmental Entity Responsibility in Outer Space*, J. AIR L & COM. 135 (2025).

⁸⁶ Brown, *supra* note 16; GERHARD, *supra* note 76, at 403 (“The authors of the Treaty intended to assign all non-governmental space activities to a State.”). In the United States, 51 U.S.C. § 50904(a)(1) gives the Federal Aviation Administration (FAA) the authority to issue licenses for commercial launches, which are required by citizens of the United States that wish to engage in launch activities, even outside the United States. 51 U.S.C. § 50902(1)(A)-(C) defines a “citizen of the United States.” The definition extends to an entity organized or existing under the laws of the United States or a State.

⁸⁷ *See also supra* note 81. Prof Von Der Dunk outlines the three schools of thought concerning the scope of Article VI. The first approach focuses on the “national” component where “a state was to be held international [*sic*] responsible for space activities conducted by its national—obviously including private companies and other legal persons.” The Second approach centers around a liability approach, which relies heavily on the launching State to determine liability. This school of thought equates “national activities” with activities in which the State qualifies as a “launching State.” Finally, the third school of thought looks at the authorization and supervision requirements and argues that only those states with the “legal tools available to control them” could be

most aggressive, focuses on a “national” approach, where a State is responsible “for space activities conducted by its nationals—obviously including private companies and other legal persons.”⁸⁸ Another viewpoint turns on a liability approach, which relies heavily on the launching State’s status to assess liability.⁸⁹ Finally, a third school looks at the authorization and supervision requirements and asserts that only those States with the “legal tools available to control [the national activities]” could be responsible for them.⁹⁰

While resolving this tension is not the primary purpose of this Article, it endorses the interpretation that States should not be responsible for “all activities of their nationals—i.e., hacking of a satellite by a private individual.”⁹¹ Yet, “commercial operations, such as Starlink, could not operate in space without the authorization and supervision of the appropriate State; therefore, its activities” under some interpretations could constitute national space activities in the Article VI sense.⁹²

Finally, international responsibility is distinct from liability.⁹³ Responsibility, according to the OST⁹⁴ and other international legal

responsible for those activities as national activities. For further discussion, *See* Frans von der Dunk, *Origins of Authorization*, *supra* note 70, at 5-6.

⁸⁸ Frans von der Dunk, *Origins of Authorization*, *supra* note 70, at 5-6.

⁸⁹ *Id.*

⁹⁰ *Id.*

⁹¹ Brown, *supra* note 16.

⁹² *Id.* The Cologne Commentary on the OST recognizes that “activity” is a broad category and could include satellite telecommunications. Moreover, the commentary recognizes that “State practice varies” and most States are either silent on the scope of what constitutes a national activity or interpret it to include any activities in outer space; GERHARD, *supra* note 76, at 390 (understanding appropriate state as the State “that is appropriate to authorize non-governmental activities in outer space”). For the US, it regulates satellite telecommunications under 47 U.S.C. Part 25, Satellite Communications, suggesting that downlink communications (those provided by Starlink) would be a national activity of the United States. While discussed at greater length below, the ultimate conclusion of what constitutes a national activity is outside the scope of this article but is an area of further research elaborated upon in the Recommendations section.

⁹³ The notion of a bifurcated theory of responsibility and liability in international law is a more recent phenomenon, and the “unified” theory of the two concepts had its roots in earlier classical thinking which “brought notions of responsibility and liability into almost total synonymity.” Pierre-Marie Dupuy, *The International Law of State Responsibility: Revolution or Evolution?*, 11 MICH. J. INT’L L. 105, 109 (1989).

⁹⁴ OST Article VI refers to responsibility while OST Article VII refers to international liability. *See* Outer Space Treaty, *supra* note 75, art. VI-VII; GERHARD, *supra* note 76, at 444 (making less of a distinction of the difference in terminologies,

regimes⁹⁵ attaches irrespective of whether an internationally wrongful act occurred and may also exist where activities stem from actions “not prohibited by international law.”⁹⁶ Liability is a “State’s duty to reparate or compensate the injured State [or Party]” for damage suffered.⁹⁷ And, liability is a “legal consequence” of a State’s responsibility as established under OST Article VI.⁹⁸ While the two legal concepts have sparked strong academic debate,⁹⁹ this Article focuses more narrowly on Article VI and strictly State responsibility rather than liability.

ii. States Must Ensure that Their National Activities Comply with the Obligations Set Forth in the Outer Space Treaty Specifically and International Law More Generally

States must also ensure that governmental and non-governmental space activities “are carried out in conformity with” the Outer Space Treaty,¹⁰⁰ specifically, and international law more broadly.¹⁰¹ The obligations set forth by the Outer Space Treaty include an obligation to act with due regard for the interests and activities of other States.¹⁰² China, for example, claimed it was forced to maneuver its human-occupied space station to avoid collisions

observing that “while the differing terms in official versions of the OST may be the result of “differing legal traditions” they combine to impose a “clear obligation on a State to control and be answerable, even liable, under international law, for its national space activities.”).

⁹⁵ International Law Commission, *Draft Articles on Responsibility of States for Internationally Wrongful Acts*, art. 1, November 2001, Supplement No. 10 (A/56/10), chp.IV.E.1.

⁹⁶ Pierre d’Argent, *Responsibility or Liability: Is it really that simple?*, in AMERICAN STUDIES IN INT’L L., 212 (Samantha Besson, ed., 2022).

⁹⁷ ARNEL KERREST & LESLEY JANE SMITH, COLOGNE COMMENTARY ON SPACE LAW: OUTER SPACE TREATY, 444 (Stephen Hobe, et al., eds., 1st ed. 2009).

⁹⁸ *Id.*

⁹⁹ See, e.g., Dupuy, *supra* note 93, at 105 (outlining the classical theory of responsibility and arguing for a new category within the responsibility/liability frame for international crimes); d’Argent, *supra* note 96, at 211-17 (outlining the distinction between liability and responsibility, challenging the distinction between the two).

¹⁰⁰ Outer Space Treaty, *supra* note 75, art. VI.

¹⁰¹ *Id.* art. III.

¹⁰² Outer Space Treaty, *supra* note 75, art. IX (“In the exploration and use of outer space, including the Moon and other celestial bodies, States Parties to the Treaty shall be guided by the principle of co-operation and mutual assistance and shall conduct all their activities in outer space, including the Moon and other celestial bodies, with due regard to the corresponding interests of all other States Parties to the Treaty”).

with Starlink constellations.¹⁰³ In correspondence with the United Nations, China argued that “Starlink satellites launched by Space Exploration Technologies Corporation (SpaceX) of the United States of America have had two close encounters with the China Space Station.”¹⁰⁴ The first encounter occurred near Starlink-1095, when the satellite entered an orbit of around 382 km. The second encounter occurred near Starlink-2305, which China claims “was continuously maneuvering, the maneuver strategy was unknown and orbital errors were hard to be assessed . . .”¹⁰⁵ The complaint continues that for “safety reasons, the China Space Station implemented preventive collision avoidance control on 1 July and 21 October 2021, respectively.”¹⁰⁶ China then requested the Secretary-General to remind States to act in accordance with Article VI.¹⁰⁷ This example highlights one of the key obligations that States are expected to abide by and will internationally condemn if violated.

China isn’t alone in its condemnation. A Russian diplomat argued in the United Nations Office for Disarmament Affairs (UNODA) working group that commercial satellites from the US and other Western countries “needlessly put at risk the sustainability of peaceful space activities.”¹⁰⁸ The diplomat continued that

¹⁰³ Comm. on the Peaceful Uses of Outer Space, Information furnished in conformity with the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, U.N. Doc. A/AC.105/1262 (2021) (“China wishes to request the Secretary-General of the United Nations to circulate the above-mentioned information to all States parties to the Outer Space Treaty and bring to their attention that, in accordance with Article VI of the Treaty, . . .”) [hereinafter UNCOPUOS Information Furnished]. See also Mike Wall, *China’s Tianhe Space Station Module Dodged SpaceX Starlink Satellites Twice This Year*, SPACE.COM (Dec. 30, 2021), <https://www.space.com/china-tianhe-space-station-maneuvers-spacex-starlink> (last visited Jan. 6, 2026); Andrew Jones, *China’s Space Station Maneuvered to Avoid Starlink Satellites*, SPACENEWS (Dec. 28, 2021), <https://spacenews.com/chinas-space-station-maneuvered-to-avoid-starlink-satellites/> (last visited Jan. 6, 2026).

¹⁰⁴ UNCOPUOS Information Furnished, *supra* note 103.

¹⁰⁵ *Id.*

¹⁰⁶ *Id.*

¹⁰⁷ *Id.* (“China wishes to request the Secretary-General of the United Nations to circulate the above-mentioned information to all States parties to the Outer Space Treaty and bring to their attention that, in accordance with article VI of the Treaty”).

¹⁰⁸ Jon Brodtkin, *Russian Official Says Civilian Satellites May Be ‘Legitimate’ Military Target*, ARSTECHNICA (Sept. 16, 2022), <https://arstechnica.com/tech-policy/2022/09/russian-diplomat-suggests-attacks-on-satellites-in-possible-reference-to-starlink/> (last visited June 14, 2026).

the use of civilian satellites in a manner akin to Starlink's use in Ukraine is "questionable under the Outer Space Treaty, which provides for the exclusively peaceful use of outer space" and must be internationally condemned.¹⁰⁹

Furthermore, Article III "provides that international law, including the Charter of the United Nations, applies to human activities in outer space."¹¹⁰ Article III ensures that a "substantial part of international law applies to outer space," including customary international law obligations like good faith and *pacta sunt servanda*.¹¹¹ The Cologne Commentary also suggests that the article means to include such international obligations like the "sovereign equality of States, non-intervention and non-aggression, the prohibition of the use of force, the right to self-defense, and the peaceful settlement of international disputes."¹¹² Of course, Article III, as discussed in Part IV of this article, also means that neutrality law and international humanitarian law apply in outer space.

iii. States Must Authorize and Continually Supervise the Activities of Non-Governmental Entities in Outer Space

Article VI also mandates that the "appropriate State Party to the Treaty" authorize and continually supervise the activities of its non-State actors.¹¹³ International space scholars debate authorization and supervision as concepts.¹¹⁴ Generally, authorization requires States to sanction the activities of its non-governmental entities and "can be implemented within a general legislation" or

¹⁰⁹ *Id.*

¹¹⁰ OLIVIER RIBBELINK, COLOGNE COMMENTARY ON SPACE LAW: OUTER SPACE TREATY, 272 (Stephen Hobe, et al., eds., 1st ed. 2009).

¹¹¹ *Id.* at 279.

¹¹² *Id.* at 272.

¹¹³ Outer Space Treaty, *supra* note 75, art. VI.

¹¹⁴ See Gutzman, *supra* note 17, at 95-96. The use of the singular state party may imply that only a single state must be responsible for national activities in outer space. However, other outer space treaties like the Liability Convention and the Registration Convention as well as commentators and academic authorities suggest that "appropriate state," while singular can also include additional States. See also Michael J. Listner, *Op-Ed a Reality Check on Article VI and Private Space Activities*, SPACENEWS (June 6, 2017), <https://spacenews.com/a-reality-check-on-article-vi-and-private-space-activities/> (last visited Jan. 6, 2026) ("Article VI creates a right in the State to allow non-governmental entities to perform space activities subject to authorization and continuing supervision.").

other means at the State's discretion.¹¹⁵ Supervision ensures that the duties set forth in Article VI "will be observed not only before an activity has begun, but also for the whole duration of the activity."¹¹⁶ States frequently meet these duties through licensing and compliance laws.¹¹⁷ The US, for example, has a robust licensing and launch regime for its domestic space activity.¹¹⁸ In sum, Article VI "clearly lays international responsibility for national activities in outer space on a state party."¹¹⁹

B. US Responsibility for Starlink Activities in Ukraine

Even with the changing funding structure and increased interconnection between the US and Starlink, the US is in full compliance with its international space law obligations.

i. The US Is Responsible for Starlink Activity, Which Is a National Activity of the US

First, whether the US is responsible for SpaceX activities turns on whether Starlink is considered a "national activity" of the US.¹²⁰ This article adopts a middle-ground approach in the ongoing

¹¹⁵ GERHARD, *supra* note 76, at 414. *See also* NATIONAL REGULATION OF SPACE ACTIVITIES (Ram Jaku, ed., 2010) (a comprehensive sampling of national space legislation, meeting the authorization requirement).

¹¹⁶ GERHARD, *supra* note 76, at 420.

¹¹⁷ Robison, *supra* note 72, at 9.

¹¹⁸ *See e.g.*, 51 U.S.C. § 20102 (2024) (codifying the creation of the National Aeronautics and Space Administration); 51 U.S.C. § 50904(a)(1) (2024) (Federal Aviation Administration requires a license to launch or reenter a launch vehicle into the United States); 51 U.S.C. § 50901-50923 (re-codifying the Commercial Space Launch Act, requiring licensees to carry liability insurance for example). *See also, for example*, 33 U.S.C. § 883j (2018) (Coast and Geodetic Survey Act, establishing the NOAA administration to ensure satellite available for maritime functions); 51 U.S.C. § 60101-60162 (2018) (Land Remote-Sensing Policy Act of 1992), among others. *See also National Space Law*, UN OFFICE FOR OUTER SPACE AFFS., <https://www.unoosa.org/oosa/en/our-work/spacelaw/nationalspacelaw/index.html> (last visited Jan. 6, 2026);

¹¹⁹ FRANCIS LYALL AND PAUL LARSEN, *SPACE LAW: A TREATISE* 60 (2009); GERHARD, *supra* note 76, at 394 ("As a legal consequence of Article VI sentence 1, States bear international responsibility.").

¹²⁰ Crucially, not everything that Starlink (or SpaceX) does would be considered a national activity in outer space law. Some activities are within the national activities' realm, like launching, satellite control and transmitting telecommunications, *see* Cheng, *supra* note 79, at 14. Others, like shipping downlink receivers to Ukraine, may not be considered a national activity and is continuously debated. While this article cannot resolve which Starlink activities are or are not national activities for space law

scholarly debate about the interpretation of “national activity.”¹²¹ While States “should not be responsible for *all* activities of their nationals,” it is clear that “commercial operators, such as Starlink, could not operate in space without the authorization of the appropriate State”—here the US.¹²²

The Federal Aviation Administration and its office of Commercial Space Transportation within the Department of Transportation controls licenses for launch and reentry of spacecraft.¹²³ An FAA-bestowed license is required for space activities that leave or enter the US’ territory or for a citizen of the US “when they are operating a launch, reentry, or launch/reentry site outside the United States.”¹²⁴ SpaceX is incorporated in Texas¹²⁵ and all Starlink satellites have launched from Vandenberg Space Force Base, California; Cape Canaveral, Florida; or Kennedy Space Center, Florida.¹²⁶ Thus, SpaceX is a citizen of the US, requiring an FAA license pursuant to US domestic space law.¹²⁷ And, accordingly, Starlink’s activity in Ukraine constitutes a national activity of the US.

ii. The US Ensures Starlink Acts in Accordance with the Obligations set forth in the Outer Space Treaty and Complies with General International Law

Whether the US ensures Starlink complies with its legal obligations depends on both the nature of Starlink as a mega-constellation generally speaking and on its unique activities distinct from

purposes, this article does assume that the relevant activities for Ukrainian military support (i.e., communications, satellite placement,) are national activities. The authors thank Lt Col Seth Dilworth for raising this important distinction.

¹²¹ Brown, *supra* note 16 (highlighting the three different viewpoints of what activities fall within the jurisdiction of the State as a national activity). See discussion in note 87, *supra*.

¹²² *Id.*

¹²³ MIRMINA AND SCHENEWERK, *supra* note 25, at 129.

¹²⁴ 51 U.S.C. § 50904(a)(1) (2023). See MIRMINA AND SCHENEWERK, *supra* note 25, at 129-130.

¹²⁵ Mike Ives, *SpaceX is Now Incorporated in Texas, Elon Musk Says*, NEW YORK TIMES (Feb. 15, 2024), <https://www.nytimes.com/2024/02/15/business/spacex-delaware-texas.html> (last visited Jan. 6, 2026).

¹²⁶ *Starlink Mission*, SPACE X, <https://www.spacex.com/launches> (last visited June 14, 2026).

¹²⁷ See e.g., Letter from the Federal Aviation Administration, to Space Exploration Technologies, Commercial Space Transportation License, LLO 19-110 (Rev 3), License Number: LLO 19-110 Rev 16 (last visited Jan. 6, 2026).

other mega-constellations like OneWeb and Kuiper.¹²⁸ This article advances that the US is continually supervising Starlink's activities in Ukraine to comply with its international legal obligations.

Starlink, as a mega-constellation, could violate Article II of the OST, which prohibits national appropriation of either outer space or the celestial bodies.¹²⁹ Starlink, by its sheer size and technical primacy, could become the sole or majority user of a number of orbital altitudes where it effectively becomes the "owner of that orbit."¹³⁰ Yet, this argument is unpersuasive.¹³¹ Space exploration necessitates some level of occupation, and the OST contemplates prolonged use on the lunar surface, for example.¹³² Appropriation, as understood in Article II, requires not only factual possession but also an intent to possess.¹³³ Here, Starlink is not possessing the orbits but using them consistently with FCC and the International

¹²⁸ Where a Satellite mega-constellation is understood as "a group of several hundreds and thousands of artificial satellites, orbiting around Earth and working together as a system." Other mega-constellations include Telesat (Canada), Hongyan and Hongyun (CNSA, China) and Sphere (ROSCOSMOS, Russia); Devanshu Jah, et al., *Safeguarding the final frontier: Analyzing the legal and technical challenges to mega-constellations*, 9 J. OF SPACE SAFETY ENG'G, 636, 637 (2022).

¹²⁹ Outer Space Treaty, *supra* note 75, art. II.

¹³⁰ Christopher D. Johnson, *The Legal status of Mega LEO Constellations and Concerns About Appropriation of Large Swaths of Earth Orbit*, in 16 HANDBOOK OF SMALL SATELLITES (Pelton J., eds. 2020).

¹³¹ Although, it does highlight concerns with access to outer space and is an area of further study, particularly understanding the long-term impacts of mega-constellations on others' usage rights. *See, e.g.*, the pushback from astronomers on the prevalence of mega-constellations. Sara Langston and Kayla Taylor, *Evaluating the Benefits of Dark and Quiet Skies in an Age of Satellite Mega-Constellations*, 68 SPACE POL., 1 (2024) (describing the rise in orbiting satellites makes professional and recreational astronomical observations "increasingly difficult" in part because of the radio frequency interference of the mega-constellations and the "noise" added to astronomical equipment); Alexandra Witze, *SpaceX Launch Highlights Threat to Astronomy from 'Megaconstellations'*, NATURE (Nov. 11, 2019), <https://www.nature.com/articles/d41586-019-03446-y> (last visited Jan. 6, 2026) (launching mega-constellations "doesn't seem as bad as initially feared, but might still dramatically shift how some astronomers do their jobs.").

¹³² Article IV of the Outer Space Treaty contemplates the "establishment of military bases, installations and fortifications" on the Moon and other celestial bodies and explicitly allows the "use of any equipment or facility necessary for peaceful exploration of the Moon and other celestial bodies shall also not be prohibited." Outer Space Treaty, *supra* note 75, art. VI.

¹³³ Andrea J. Harrington, *Preserving Humanity's Heritage in Space: Fifty Years After Apollo II and Beyond*, 84 J. AIR L. & COM. 299, 320 (2019).

Telecommunication Union (ITU) guidelines.¹³⁴ Starlink also has no intent to possess the orbits. In fact, rather than perpetual possession, US domestic guidelines published by the FCC in 2022 require spacecraft that become inoperable or end their lifecycles at an altitude of 2,000 kilometers “to deorbit as soon as practicable and no more than five years after the end of their mission.”¹³⁵ Commentators lauded SpaceX for its quick de-orbiting of nearly 100 defunct Starlink satellites in 2024.¹³⁶

Mega-constellations like Starlink also challenge freedom of access as established in the OST Article I. A strict reading of the Article I could suggest that any use which may impair the freedom of exploration and use of other countries is prohibited. However, practice informs us that the use of outer space is encouraged and heavily practiced by countries since the OST’s entry into force in 1967. Other articles in the Outer Space Treaty allow a type of exclusive usage.¹³⁷ Moreover, preambulatory material also suggests the OST does not allow unfettered freedom of action.¹³⁸

Mega-constellations also implicate the concept of due regard for the interests of all other States. Article IX and the concept of due regard requires States to, in relevant part:

avoid harmful contamination of outer space, to avoid adverse changes in the Earth environment due to the introduction of extraterrestrial matter, and to undertake appropriate

¹³⁴ The FCC has approved Starlink’s application, which requires applicants to comply with the ITU Radio Regulations rules.

¹³⁵ Jeff Foust, *FCC Approves New Orbital Debris Rule*, SPACENEWS (Sept. 29, 2022), <https://spacenews.com/fcc-approves-new-orbital-debris-rule/> (last visited Jan. 6, 2026).

¹³⁶ Jeff Foust, *SpaceX to Deorbit 100 Older Starlink Satellites*, SPACENEWS (Feb. 13, 2024), <https://spacenews.com/spacex-to-deorbit-100-older-starlink-satellites/> (last visited Jan. 6, 2026).

¹³⁷ See *supra* note 132 and accompanying text. For a discussion on the implications of non-usage and the “paper satellite” problem, where companies file orbital slots with the ITU never to use them. See also Philip De Man, *Rights over Areas v. Resources in Outer Space: What’s the Use of Orbital Slots*, 38 J. SPACE L. 39 (2012).

¹³⁸ The Vienna Convention on the Law of Treaties (VCLT) Article 31 outlines the rules for treaty interpretation, noting that a treaty “shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in light of its object and purpose.” See Vienna Convention on the Law of Treaties, art. 31, May 23, 1969, 1155 U.N.T.S. 331. The object and purpose of the OST suggest limitations on Article I’s application, which specifically mentions UNGA Resolution 1884(XVIII), which prohibits States from placing nuclear weapons in orbit, for example. Outer Space Treaty, *supra* note 75, at Preamble.

international consultations if a State has reason to believe its space activities would cause potentially harmful interference to the space activities of other States.¹³⁹

In meeting these requirements, mega-constellations pose a greater challenge. Scholars have already raised warnings about the risk, and realized impact, of mega-constellations on visual and radio astronomy, for example.¹⁴⁰ As discussed earlier, States have expressed concern with Starlink's constellation and have had to allegedly maneuver space stations to avoid collisions.¹⁴¹ While perhaps not rising to the threshold of harmful interference, States have expressed frustration with Starlink satellites as a violation of their sovereignty rights. Iran, for example, complained to the ITU, arguing that despite not approving Starlink's network within its borders, the company still provides service in Iran.¹⁴² In fact, the ITU ruled against SpaceX (and the US and Norway),¹⁴³ requiring the

¹³⁹ John S. Goehring, *Can We Address Orbital Debris with the International Law We Already Have? An Examination of Treaty Interpretation and the Due Regard Principle*, 85 J. AIR L. & COM. 309, 313 (2020) (applying the concept of due regard as a mechanism to address orbital debris).

¹⁴⁰ See David A. Koplow, *Blinded by the Light: Resolving the Conflict Between Satellite Megaconstellations and Astronomy*, VAND. J. TRANSNAT'L L. 57 (2024) (exploring the tensions between the proliferation of small-scale satellites and astronomy); Tereza Pultarova, *Radio Pollution from SpaceX's New Starlink Satellites Poses Threat to Astronomy, Scientists Say*, SPACE.COM (Sept. 19, 2024), <https://www.space.com/starlink-v2-mini-radio-noise-threatens-astronomy#:~:text=Radio%20pollution%20from%20Starlink%20satellites,sig-nals%20from%20the%20early%20universe.&text=SpaceX's%20new%20Star-link%20satellites%20produce,interference%20with%20radio%20astronomy%20observa-tions> (last visited Jan. 6, 2026) (reporting that Starlink's newest additions to the constellation will produce 32 times more radio noise than earlier satellites).

¹⁴¹ See *supra* notes 103-107 and accompanying text.

¹⁴² Bruce Einhorn, *Iran Takes Battle to Block Musk's Starlink Internet to UN*, BLOOMBERG (Mar. 27, 2024), <https://www.bloomberg.com/news/newsletters/2024-03-27/why-policing-elon-musk-s-starlink-satellites-is-a-global-challenge> (last visited Jan. 6, 2026).

¹⁴³ Norway and the United States split the responsibility for registering Starlink's ITU registration. See International Telecommunication Union, Radio Regulations Board, "Provision of Starlink satellite services in the territory of the Islamic Republic of Iran," 101st Meeting, https://www.itu.int/en/ITU-R/conferences/RRB/Pages/Starlink.aspx?utm_source=copilot.com (last visited June 14, 2026).

US to “take ‘immediate action’ to disable terminals in Iran.”¹⁴⁴ China also declined Starlink services within its borders.¹⁴⁵

Finally, mega-constellations pose an increased risk for expansive orbital space debris.¹⁴⁶ While a concern, SpaceX and the US encourage mitigation guidelines to minimize the risk of space debris. For example, SpaceX habitually deorbits defunct or malfunctioning satellites.¹⁴⁷ Moreover, in 2020, the Federal Communications Commission (FCC) adopted a new rule, the Mitigation of Orbital Debris in the New Space Age, which is intended to “mitigate the growth of orbital debris, while at the same time not creating undue regulatory obstacles to new satellite ventures.”¹⁴⁸ Finally, as discussed above, the FCC in 2022 implemented a new rule for private space companies to deorbit defunct and no-longer-operational satellites within five years.¹⁴⁹

While Starlink, and mega-constellations generally, present growing concerns for various areas in international space law, so far, the lack of consensus on guidelines for such ventures, as well as the compliance efforts already taken by SpaceX and the US, make these activities likely in conformity with the existing legal standards framed under the Outer Space Treaty obligations.

iii. The US Authorizes and Continually Supervises SpaceX’s Starlink Activities in Ukraine

The US is also meeting its obligation to authorize and continually supervise SpaceX’s Starlink activities in Ukraine. The US has guiding domestic legislation to oversee its space activities, and

¹⁴⁴ Einhorn, *supra* note 142.

¹⁴⁵ The Economist, *Why China is Building a Starlink System of its Own*, ECONOMIST (Dec. 6, 2024), <https://www.economist.com/science-and-technology/2024/12/06/why-china-is-building-a-starlink-system-of-its-own> (Jan. 6, 2026).

¹⁴⁶ Ethan Siegel, *Will Musk’s Starlink Satellites Lead to Kessler Syndrome*, BIGTHINK (Sept. 28, 2023), <https://bigthink.com/starts-with-a-bang/musk-starlink-satellites-kessler-syndrome/> (last visited Jan. 6, 2026) (explaining that Starlink’s sheer size makes it a prime factor in producing a Kessler syndrome effect).

¹⁴⁷ Foust, *supra* note 136.

¹⁴⁸ Mitigation of Orbital Debris in the New Space Age, 86 Fed. Reg. 52101 (Sept. 20, 2021) (codified in 47 C.F.R. Parts 5 and 97).

¹⁴⁹ Foust, *supra* note 135, Federal Communications Commission, Second Report and Order, Mitigation of Orbital Debris in the New Space Age, FCC 22-74, IB Docket Nos. 22-271 & 18-313 (Sept. 29, 2022).

those specifically attributed to non-governmental entities.¹⁵⁰ In the US, SpaceX submitted an application and received a license from the FAA, “to conduct launches or reentries, in accordance with the representations contained in the licensee’s application, . . . and subject to the licensee’s compliance with the terms and conditions contained in license orders accompanying the license, including financial responsibility requirements.”¹⁵¹ Moreover, the US monitors SpaceX compliance closely – e.g., recently issuing a \$633,000 fine to the company for “violating its launch licenses on two occasions in 2023.”¹⁵² There, the notice outlined that SpaceX failed to comply with Federal Aviation Regulation 14 C.F.R. § 417.111(a), to “follow each launch plan” and 14 C.F.R. § 417.111(a), “to conduct a licensed launch and carry out launch safety procedures in accordance with its application.”¹⁵³

While the US appears to be meeting its obligations during launch and re-entry, the supervision and authorization requirements during spaceflight are still uncertain. International actors and scholars have debated the definition and scope of authorization and supervision for decades.¹⁵⁴ In 2016, for example, the Obama Administration “proposed a concept called mission authorization,”

¹⁵⁰ See *supra* note 118.

¹⁵¹ MIRMINA AND SCHENEWERK, *supra* note 25, at 43, 133. (“The way most States implement their Article VI responsibilities is through national laws and regulations.”).

¹⁵² Letter from the Federal Aviation Administration, to President, Space Exploration Technologies Corp. (Sept. 17, 2024) (on file with author) (outlining proposed civil penalty for deviation from launch plan and failure to abide by safety procedures in accordance with its application); *FAA Proposes \$175,000 Fine Against SpaceX for Not Submitting Required Pre-Launch Data*, FEDERAL AVIATION ADMINISTRATION (Feb. 17, 2023), <https://www.faa.gov/newsroom/faa-proposes-175000-fine-against-spacex-not-submitting-required-pre-launch-data> (last visited Jan. 6, 2026) (FAA proposing \$175,000 fine); Jeff Foust, *FAA fines SpaceX for Launch License Violations*, SPACENEWS (Sept. 17, 2024), <https://spacenews.com/faa-fines-spacex-for-launch-license-violations/> (last visited Jan. 6, 2026); Mike Wall, *FAA Requiring Investigation into SpaceX Starship’s Flight 7 Explosion*, SPACE.COM (Jan. 17, 2025), <https://www.space.com/space-exploration/private-spaceflight/faa-requiring-investigation-into-spacex-starships-flight-7-explosion> (last visited Jan. 6, 2026) (while not Starlink, specifically, showing an awareness and monitoring of SpaceX activities).

¹⁵³ Letter from the Federal Aviation Administration, to President, Space Exploration Technologies Corp. (Sept. 17, 2024) (on file with author).

¹⁵⁴ Submission to the National Space Council, *Approaches for Authorization and Supervision* SECURE WORLD FOUNDATION (Dec. 2022) (on file with author) (“To what extent and how this obligation [Article VI] is implemented has been the subject of near-continuous debate for decades.”).

which intended to address space activities that did not fall neatly within those already regulated by National Oceanic and Atmospheric Administration (NOAA), the FAA or the FCC.¹⁵⁵ Subsequently, the Trump Administration endorsed the proposal in its 2020 National Space Policy and assigned the Department of Commerce as the lead for the concept.¹⁵⁶ Importantly, while this question is certainly unsettled, the predominant disputes concern novel space activities that are not clearly licensed through existing regulatory bodies.¹⁵⁷ For Starlink, the US is meeting its international obligations for authorization and supervision. The constellation has procured the necessary domestic licenses for launch and re-entry as well as received approval from the ITU and agreed to abide by ITU guidelines for its spectrum use.

IV. THE US, SPACEX, THE LAW OF NEUTRALITY AND INTERNATIONAL HUMANITARIAN LAW

Part III, above, established that the US is responsible for, and meeting, its international space law obligations pursuant to Article VI of the Outer Space Treaty. Despite this compliance, the Treaty's imposition of international responsibility, authorization and continuing supervision on States for their non-governmental spacefarers suggests a degree of attribution for those activities. While this relationship forms the basis of domestic space regimes, SpaceX's groundbreaking involvement in a State-versus-State armed conflict requires the inquiry to progress to its logical conclusion – how does private satellite service provision implicate States, individuals, and companies as parties to the conflict or even as lawful targets by other belligerents.

¹⁵⁵ *Id.*

¹⁵⁶ *Id.*

¹⁵⁷ Clayton Swope, *Mission Authorization: Decoding the Space Policy Dilemma*, AEROSPACE (Jan. 11, 2024), <https://aerospace.csis.org/mission-authorization-decoding-the-space-policy-dilemma/> (last visited Jan. 6, 2026) (An OSTP report identified that for novel space activities like commercial habitats, in-space manufacturing, and on-orbit refueling, the licensing regime currently in place does not clearly address these use cases).

A. The Law of Neutrality

While the concepts of war and neutrality in outer space are recent developments “with no State practice authoritatively confirming . . . conventional or customary obligations,”¹⁵⁸ it is largely settled that the law of neutrality applies in outer space during international armed conflict.¹⁵⁹ Scholarly consensus coupled with a lack of practical history requires assessment “on a case-by-case basis,”¹⁶⁰ as is performed here. Moreover, the ubiquitous nature of Starlink’s services, which permeate air, land, and sea operations, merit comprehensive analysis through all terrestrial legal lenses, including neutrality law.

Delineating friend from foe, and consequently which group is susceptible to attack, is fundamental to human experience. Neutrality is a key component of identifying enemies, friends and neutrals. It started to crystallize during the Middle Ages before solidifying into treaties during the nineteenth century,¹⁶¹ culminating with the Hague Conventions of 1907.¹⁶² The Hague Conventions formally codified the law of neutrality,¹⁶³ and they endure into the present day. An understandable, yet inconvenient, limitation of the Conventions is that given their age, they lack any consideration of outer space or the assets that operate in, from and through outer space.¹⁶⁴ Moreover, despite the passage of time since the Hague Conventions’ enactment, international law has not defined “neutral

¹⁵⁸ Woomera Manual, *supra* note 16, at 401.

¹⁵⁹ *Id.* at 399.

¹⁶⁰ *Id.* at 401.

¹⁶¹ Gutzman, *supra* note 17, at 103-04.

¹⁶² STEPHEN MULLIGAN, CONG. RSCH. SERV., LSB10735, INTERNATIONAL NEUTRALITY LAW AND US MILITARY ASSISTANCE TO UKRAINE 2 (2022); *Practical Guide to Humanitarian Law*, DOCTORS WITHOUT BORDERS, <https://guide-humanitarian-law.org/content/article/3/the-hague-conventions-of-1899-and-1907/> (last visited Jan. 6, 2026). These treaties are known as “The Hague Conventions” because they were adopted at a series of Peace Conferences held in the Hague, Netherlands in 1899 and 1907. The conferences established the laws and customs of war, defining rules for belligerents and protected afforded to victims. The 1907 Conventions later strengthen the 1899 Conventions. There are Thirteen Conventions in total. *See also* YORAM DINSTEIN, *THE CONDUCT OF HOSTILITIES UNDER THE LAW OF INTERNATIONAL ARMED CONFLICT* 1-39 (2004).

¹⁶³ Paul Seger, *The Law of Neutrality*, in *THE OXFORD HANDBOOK OF INTERNATIONAL LAW IN ARMED CONFLICT* 249 (Andrew Clapham & Paola Gaeta eds., 2014),

¹⁶⁴ Gutzman, *supra* note 17, at 109.

State.”¹⁶⁵ While varying interpretations of neutrality law abound, the core concept and its accompanying treaties remain largely followed internationally.¹⁶⁶

Two of the thirteen Hague Conventions govern neutrality—Hague Convention V, The Rights and Duties of Neutral Powers and Persons in Case of War on Land (“Hague Convention V”) and Hague Convention XIII, The Rights and Duties of Neutral Powers in Naval War (“Hague Convention XIII”). While customary international law¹⁶⁷ has become the enduring foundation of the law of neutrality – as endorsed by the International Court of Justice¹⁶⁸ - due to juridical limitations of the Hague Conventions, “there is common ground on major aspects of neutrality, and legal scholars of the modern international law era have used the same core elements” when assessing neutrality questions.¹⁶⁹

¹⁶⁵ Kritika Ramya, *The Interplay between Neutrality, Qualified Neutrality and Cobelligerency in the Context of US Intervention in the Russia-Ukraine War*, 23 INT’L AND COMPAR. L. REV., 72, 74 (2023).

¹⁶⁶ HANS Kelsen, INTERNATIONAL LAW STUDIES: COLLECTIVE SECURITY UNDER INTERNATIONAL LAW, 154-171 (1954); Hitoshi Nasu, *The Future Law of Neutrality*, ARTICLES OF WAR (July 19, 2022), <https://lieber.westpoint.edu/future-law-of-neutrality/> (last visited Jan. 6, 2026) (“The law of neutrality will remain relevant for legal considerations, one way or another, as long as the United Nations Security Council continues to be stymied.”).

¹⁶⁷ BARRY E. CARTER, ET AL., INTERNATIONAL LAW 123 (2018) (“The traditional definition of customary international law includes both an objective element (state practice) and a subjective element (*opinio juris*).”); Int’l Comm. on the Red Cross, *Customary International Humanitarian Law*, ICRC (Oct. 29, 2010) (“Customary international law is made up of rules that come from ‘a general practice as accepted as law,’ and that exist independent of treaty law.”). *But see* there are key exceptions for customary international law principles, which include specially affected states, persistent objectors, and regional customs. *See* BARRY E. CARTER, ET AL., INTERNATIONAL LAW 133-136 (2018).

¹⁶⁸ The International Court of Justice announced in 1996: “The Court finds that as in the case of the principles of humanitarian law applicable in armed conflict, international law leaves no doubt that the principle of neutrality, whatever its content, which is of a fundamental character similar to that of the humanitarian principles and rules, is applicable (subject to the relevant provisions of the United Nations Charter), to all international armed conflict, whatever type of weapons might be used.” *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, 1996 I.C.J. Rep. 226, ¶ 89 (July 8).

¹⁶⁹ Manuel Rodriguez, *Operation RUBICON: An Assessment with Regard to Switzerland’s Duties Under the Law of Neutrality*, 50 INT’L J. LEGAL INFO. 82, 88-89 (2022) (“only a part of customary international law was codified; only a small number of States ratified or acceded to Hague Conventions V and XIII; the provisions of the two conventions only apply between contracting powers and then only if all the belligerents are parties to the convention; and the world was a different one in 1907.”).

The Conventions separate actors into two categories: belligerent Parties and neutral Parties.¹⁷⁰ As discussed above, while there is no universal definition for neutrality, it is fairly understood to mean “a non-warring party during an armed conflict.”¹⁷¹ Neutral parties have several key rights afforded them by the Hague Conventions. For example, Article 1 of Hague Convention V outlines that the territory of a neutral power is inviolable and thus must not be encroached upon by other States,¹⁷² and Article 1 of Hague Convention XIII requires belligerents to “respect the sovereign rights of neutral powers.”¹⁷³ Belligerents cannot move personnel or materiel across a neutral’s territory nor use the neutral’s territory for military communications and recruitment.¹⁷⁴ The allure of neutrality is understandable; it allows a State to maintain relations with any belligerent or fellow neutral, and perhaps most importantly, protects its people, territory and livelihood from the harms of war.¹⁷⁵

The benefits of neutral status are compelling; however, reaping those benefits and accompanying protections requires that the neutral State abide by certain obligations to maintain its status. Some obligations are rudimentary and perhaps obvious. For example, Hague Convention V states that a neutral loses its status if it “commits hostile acts against a belligerent” party.¹⁷⁶ Hague Convention XIII echoes this sentiment, where neutrality is granted barring “any act of hostility . . . in the territorial waters of a neutral power.”¹⁷⁷

¹⁷⁰ Rights and Duties of Neutral Powers and Persons in Case of War on Land, preamble, 18 October 1907, 36 Stat. 2310 (1910) [hereinafter Hague Convention V].

¹⁷¹ *Id.* art. 16 (stating that “the nationals of a state which is not taking part in the war are considered as neutrals.”); Ramya, *supra* note 165, at 74.

¹⁷² Hague Convention V, *supra* note 170, art. 1.

¹⁷³ Convention Between the United States and Other Powers Concerning the Rights and Duties of Neutral Powers in Naval War, art. 1, 18 October 1907, 36 Stat. 2415 (1910) [hereinafter Hague Convention XIII].

¹⁷⁴ Hague Convention V, *supra* note 170, at arts. 2-4.

¹⁷⁵ Rodriguez, *supra* note 169, at 88-89.

¹⁷⁶ Hague Convention V, *supra* note 170, art. 17.

¹⁷⁷ Hague Convention XIII, *supra* note 173, art. 2. Hostile act is undefined in international law. The Commentary on the Additional Protocols to the Geneva Conventions include examples such as “combat” and “destroying installations of the enemy” as examples of hostile acts. See INTERNATIONAL COMMITTEE ON THE RED CROSS, ADDITIONAL PROTOCOL I COMMENTARY, ¶1622 [hereinafter ICRC AP I Commentary]. This article adopts an understanding that a neutral may not attack a belligerent or destroy

Some restrictions also impose a degree of vigilance on the neutral State to maintain its status. Hague Convention V mandates that a “neutral power must not allow” any of the above-listed belligerent activities (personnel and material movement, building military-enabling communications, and recruiting from inside the neutral’s territory, for example) “to occur on its territory,”¹⁷⁸ and must even punish such acts if committed.¹⁷⁹ The Conventions also require any restriction or prohibition enacted by a neutral power to be impartially applied to both belligerents.¹⁸⁰ If belligerents arrived on a neutral’s territory, they must be encamped far from the conflict theater,¹⁸¹ and if in receipt of an escaped prisoner of war, the neutral must make no restrictions on their liberty.¹⁸² Hague Convention V does empower the neutral in some cases, allowing for forcible resistance to any outside attempts to violate neutrality¹⁸³ and provides discretion on whether or not to punish such acts occurring outside the neutral’s territory.¹⁸⁴

B. Attribution for Non-State Actions Under Neutrality Law

Neutrality turns on the actions deriving from a State and attribution is a central question in determining whether a neutral is abiding by its obligations. International perspectives have evolved over time on the issue of attribution, highlighting the changing relationship of private-State partnerships. The Hague Conventions do not require a neutral State to “prevent the export or transit, for the use of either belligerent, of arms, ammunitions, or, in general, of anything which could be of use to an army or fleet.”¹⁸⁵ Two

belligerent outposts wherever located. Moreover, it does not clarify what level of action (i.e., threat or use of force, armed attack, etc.) would meet the threshold of a “hostile act” or “combat” or “destroying installations of the enemy.” This activity illustrates one end of the spectrum of prohibited behavior by a neutral towards a belligerent party. Since SpaceX and Starlink operates well within this spectrum, it is outside this article’s scope to discuss the finer points of what actions constitute violations of neutrality, despite their academic interest.

¹⁷⁸ Hague Convention V, *supra* note 0, art. 5.

¹⁷⁹ *Id.*

¹⁸⁰ *Id.* art. 9.

¹⁸¹ *Id.* art. 11.

¹⁸² *Id.* art. 13.

¹⁸³ *Id.* art. 10.

¹⁸⁴ *Id.* art. 5.

¹⁸⁵ Hague Convention XIII, *supra* note 173, art. 7.

decades later, the Pan-American Convention on Maritime Neutrality (“The Pan-American Convention”),¹⁸⁶ cemented this approach, absolving a neutral State of accountability for its exports.¹⁸⁷ It frees a neutral State from any obligation “to prevent the export or transit at the expense of any one of the belligerents of arms, munitions and in general of anything which may be useful to their military forces.”¹⁸⁸ The Pan-American Convention goes further by bifurcating State and non-State actions entirely when analyzing neutral status, declaring that only acts of “assistance” rather than “commerce” are contrary to neutrality.¹⁸⁹

This persistent issue continues to evolve with countries, perhaps unintentionally, strengthening the notion of imparting the obligation onto the State. While it is unclear whether this approach has reached customary international law, there has been an increase in State practice to resolve questions of government accountability and commerce invoking neutrality law.¹⁹⁰ This trend largely stems from greater domestic and international regulation empowering States to restrict exports and imports from non-State actors.¹⁹¹ US actions also support this tightening interpretation with its extensive export control and licensing regimes, for example.¹⁹²

¹⁸⁶ See Int’l Comm. on the Red Cross, *Convention on Maritime Neutrality*, Havana, 20 February 1928, ICRC, <https://ihl-databases.icrc.org/en/ihl-treaties/havana-conv-1928?activeTab=> (last visited Jan. 6, 2026) (the Convention was adopted in Havana in 1928 based on a project by the American Institute of International Law. Many of its provisions reproduce the Hague Convention XIII rules but does update some based on the experiences of World War I). As of writing, there are 21 signatories from the Americas, with the United States having ratified and acceded to the treaty. See also *Argentine Republic v. Amerasia Shipping Corp.*, 488 US 428, 442, 109 S. Ct. 683, 692 (1989) (the Court treated the Pan American Neutrality Convention as a binding treaty setting “forth substantive rules of conduct”).

¹⁸⁷ Convention on Maritime Neutrality, art. 22 135 L.N.T.S. 187, entered into force Jan. 21, 1931 [hereinafter Pan-American Convention].

¹⁸⁸ *Id.*

¹⁸⁹ *Id.* art. 15.

¹⁹⁰ Rodriguez, *supra* note 169, at 96 (quoting Stefan Oeter, *Neutralität und Waffenhandel*, 174 ff., 256 (1992).; Thomas Roeser, *Völkerrechtliche Aspekte des internationalen Handels mit konventionellen Waffen*, 26 ff (1988)).

¹⁹¹ *Id.* at 82 (discussing Switzerland’s domestic regulation on exports and imports during wartime but finding that even with those increased regulations, Switzerland did not violate its neutrality provisions by providing communications equipment during Operation RUBICON).

¹⁹² See, e.g., 22 C.F.R. §§ 120.1–130.17 (2024) (US International Traffic in Arms Regulation), 15 C.F.R. §§ 730.1–774.1 (2024) (US Export Administration Regulation).

As applied to outer space, while the controls on satellite exports are loosening,¹⁹³ the industry still remains heavily regulated and subject to an array of domestic statutory and regulatory frameworks.¹⁹⁴ Thus, a State may find at worst a dead end, and at best an uphill battle, in arguing that the provision of private satellite services to another country cannot be attributed to the originating State,¹⁹⁵ especially if the satellite provider complied with all of that State's legal and policy requirements.

i. Funding for Starlink and Application of "War Material" Bar

Private commerce can be attributed to a State and affect its neutrality. Here, the US is contributing funds for satellite services to be used by only one belligerent – Ukraine. As discussed above, Hague Convention XIII, Article 6 disallows "the supply, in any manner, directly or indirectly, by a neutral power to a belligerent power, of . . . ammunition, or war material of any kind."¹⁹⁶ The beginning of the clause notes that the "supply, in any manner, directly or indirectly,"¹⁹⁷ would likely encompass one State sponsoring another State's military-enabling capability. In other words, the US paying the bill for SpaceX to provide Starlink service for Ukraine in its conflict with Russia would at least qualify as "indirect supply." Because the prohibition for supply is listed disjunctively, and the "indirect" threshold is met here, there is no need to analyze whether partial financial assistance also reaches the "direct" threshold.

The second part of the prohibition, "ammunition, or war material of any kind,"¹⁹⁸ is less clear. While it would be difficult to imagine a colorable argument that satellite communications qualify as a type of "ammunition," it is fair to ask whether such services would indeed fall under the far broader umbrella term "war material." What constitutes war material has confounded neutrality law and

¹⁹³ Theresa Hitchens, *Commerce Department Eases Export Control on Satellites, Including for Remote Sensing*, BREAKINGDEFENSE (Oct. 17, 2024), <https://breakingdefense.com/2024/10/commerce-department-eases-export-controls-on-satellites-including-for-remote-sensing/> (last visited Jan. 6, 2026).

¹⁹⁴ See *supra* note 192.

¹⁹⁵ Rodriguez, *supra* note 169, at 96 (citing Thomas Roeser, *Völkerrechtliche Aspekte des internationalen Handels mit konventionellen Waffen*, at 230 (1988)).

¹⁹⁶ Hague Convention XIII, *supra* note 173, art. 6.

¹⁹⁷ *Id.*

¹⁹⁸ *Id.*

its evolution over the past one-hundred years.¹⁹⁹ The “war material” prohibition is “regarded as customary international law and is therefore analogically applied to land and aerial warfare.”²⁰⁰

Unfortunately, the historically trepidatious term “war material” is not concretely defined in international law.²⁰¹ The evolution of the term began with the broad interpretations under the Hague Conventions and both World Wars, where it comprised “all goods that are of use in conflict situations or all conflict-relevant goods.”²⁰² This reading seems comprehensive, incorporating virtually *anything* useful to a military. In the early 20th century amidst the prevalence of total war philosophy, it could also be argued that food sent to the front lines or other economic-adjacent activity would qualify. Such a wide-scoping interpretation would create a modern-day untenable bar for any kind of aid from a neutral to a belligerent. State practice, especially by “permanently neutral” hallmark Switzerland,²⁰³ in the last half century belies this position, contemplating the emergence of objects with both civilian and military utility, and winnowing down the category accordingly.

This refinement contributed to an understanding of “war material” that included only “military devices, which have the primary purpose of inflicting damage.”²⁰⁴ Focusing on the principal function of an item, rather than all its possible uses, cemented that “dual-use and civilian goods, which can also be used for military purposes, cannot be defined as war material under the law of neutrality.”²⁰⁵ For example, while dual-use cipher machines “could have been subsumed under the broader definition of war material under the law of neutrality in the first half of the twentieth century, they are

¹⁹⁹ Rodriguez, *supra* note 169, at 96.

²⁰⁰ *Id.* (citing Thomas Roeser, *Völkerrechtliche Aspekte des internationalen Handels mit konventionellen Waffen*, 225 (1988); Ulrike Pieper, *Neutralität von Staaten*, 66 ff., at 70 (1997)).

²⁰¹ Anke Biehler, *War Materials*, in MAX PLANCK ENCYCLOPEDIAS OF INTERNATIONAL LAW (Anne Peters, and Rüdiger Wolfrum, eds., 2013).

²⁰² Rodriguez, *supra* note 169, at 98 (citing Erik Castrén, *The Present Law of War and Neutrality*, HELSINKI: FINNISH ACADEMY OF SCIENCE AND LETTERS, 474 (1954); Ingo Wallas, “*Die völkerrechtliche Zulässigkeit der Ausfuhr kriegswichtiger Güter aus neutralen Staaten*,” 55 ff (Diss., University of Hamburg, 1970)).

²⁰³ *Id.* at 83.

²⁰⁴ *Id.* at 98 (quoting Stefan Oeter, *Neutralität und Waffenhandel*, 174 ff, 228 (1992)).

²⁰⁵ *Id.* (quoting Künzli (2008), *supra* note 161, at 423; Pieper (1997), *supra* note 108, at 71; Oeter (1992), *supra* note 146, at 228; Dürst (1983), *supra* note 80, at 78)).

unlikely to fall under the narrow interpretation . . . from 1980 onward.”²⁰⁶ Even broader interpretations present a high bar for goods to become “war material,” where the item must have “the potential for lethal use during combat.”²⁰⁷ Despite its varying interpretations, war material “certainly and undisputedly covers all articles and materials that are directly and exclusively serving the killing and destruction of the enemy, such as weapons and ammunition.”²⁰⁸

Nearly 45 years of State practice also reflects this truncated understanding of war material. For example, during the Iraq-Iran conflict (1980-1988), the United Kingdom and Germany stopped exports of lethal arms and goods with the primary purpose of killing people (including dual-use items) to satisfy the restriction on transferring war material and maintain their neutral status.²⁰⁹ The US also has comprehensive legislation regulating internal “war material,”²¹⁰ barring illegal exports of such material. Its definition turns on whether the materials can be considered “arms or munitions of war.”²¹¹ Other States have similarly nuanced interpretations of war material.²¹²

²⁰⁶ *Id.* at 99.

²⁰⁷ ALEXANDER SPRING, *THE INTERNATIONAL LAW CONCEPT OF NEUTRALITY IN THE 21ST CENTURY: AN ANALYSIS OF CONTEMPORARY NEUTRALITY WITH A FOCUS ON SWITZERLAND* 206 (2014).

²⁰⁸ Biehler, *supra* note 201.

²⁰⁹ Rodriguez, *supra* note 169, at 98 (citing Oeter (1992), *supra* note 146, at 118-120)).

²¹⁰ 18 U.S.C. § 2153(a) (outlaws disruption to war material domestically when the United States is at war or declared national emergency). 18 U.S.C. § 2151 (in such cases, war material includes “arms, armament, ammunition, livestock, forage, forest products and standing timber, stores of clothing, air, water, food, foodstuffs, fuel, supplies, munitions, and all articles, parts or ingredients, intended for, adapted to, or suitable for the use of the United States or any associate nation, in connection with the conduct of war or defense activities.”).

²¹¹ 22 U.S.C. § 401(a).

²¹² Austria, for example, considers that war material only includes weapons, ammunition and equipment such as mortars, missiles, cannons, and chemical warfare agents; military land vehicles, aircraft, and watercraft; and machines and assemblies “which are exclusively designed for the production of war material.” *Procedure for Requesting Diplomatic Flight Clearance for Foreign military Aircraft or Military Operated Aircraft*, FED. REP. OF AUSTRIA, https://www.bmlv.gv.at/english/flight_clearance.shtml (last visited Jan. 6, 2026). Switzerland has also followed a similarly narrow understanding since the Iraq-Iran conflict. *See* Rodriguez, *supra* note 169, at 98. While all consistent State practice is informative, Switzerland’s is uniquely instructive given its long history as a neutral State. Today, Switzerland considers war material “weapons, weapons

While perhaps not yet achieving customary international law status, the whittling down of “war material” is supported by considerable State practice absent demonstrable denunciations. Hence, “war material” likely only includes weapons, munitions, and other items designed specifically for lethal use during combat. Starlink satellites built to provide low-cost internet connectivity to remote civilian communities²¹³ decidedly lands outside of it. Therefore, the US’ partial funding of Starlink services in Ukraine does not qualify as indirect supply of war material under applicable international law, and consequently the US has not lost neutral status in the Russia-Ukraine armed conflict because of it.

ii. Elon Musk a Belligerent?

Analyzing Starlink’s relationship in the Ukraine War does not end at the State level. Elon Musk, SpaceX’s CEO and Founder, could also be implicated. The Hague Conventions impose limits on individuals wishing to remain neutral amidst ongoing conflict. For example, Hague Convention V, Article 17, strips one of his or her neutrality “if he commits acts in favor of a belligerent.”²¹⁴ At first glance, Elon Musk and SpaceX could be at risk of forfeiting protections based on the one-sided provision of satellite services to Ukraine. However, Hague Convention V, Article 18, carves out an exception to the Article 17 bar by excepting “supplies furnished . . . to one of the belligerents, provided that the person who furnishes [the items] . . . lives neither in the territory of the other party nor

systems, munitions, and military explosives . . . [and] equipment that has been specifically conceived or modified for use in combat or for the conduct of combat and which is not as a general rule used for civilian purposes.” Art. 22a, para. 2, let.A, of the Swiss War Material Act. These delineations form a demarcation line between belligerent and neutral status. While important to any State, this demarcation is crucial to Swiss ideology and considering that their neutrality has remained largely unquestioned for more than 200 years, is a compelling approach. See John Dreyer and Neal G. Jesse, *Swiss Neutrality Examined: Model, Exception or Both?* 15 J. OF MIL. AND STRATEGIC STUD., 60, 63-69 (2014).

²¹³ Tereza Pultarova, *Starlink Satellites: Facts, Tracking, and Impact on Astronomy*, SPACE.COM (Jan. 30, 2025), <https://www.space.com/spacex-starlink-satellites.html> (last visited Jan. 6, 2026); Brett Tingley, *10 Weird Things About SpaceX’s Starlink Internet Satellites*, SPACE.COM (Dec. 27, 2022), <https://www.space.com/spacex-starlink-satellites-10-weird-things> (last visited Jan. 6, 2026).

²¹⁴ Hague Convention V, *supra* note 170, art. 17.

in the territory occupied by him, and that the supplies do not come from these territories.”²¹⁵

Here, the satellite services and supporting equipment provided to Ukraine by SpaceX and Elon Musk are in fact supplies furnished to one of the belligerents; nonetheless, the supplies derive from, and the actors furnishing the equipment live in and are citizens of, the US – rather than either Russia or Ukraine.²¹⁶ In allowing neutral individuals to equip a belligerent while attaching geographic qualifiers, the Hague drafters struck a balance that permits exceptionally diverse sources of aid but draws clear topographical red lines, furthering their aim of “settling, in its entirety, the position of neutral individuals in their relations with the belligerents.”²¹⁷ Given the territorial stipulations, SpaceX’s Elon Musk is able to liberally furnish Ukraine while escaping likely unwanted personal embroilment via Article 17.

iii. The US and Qualified Neutrality

Aside from general interpretations in international law, the US’ unique position of “qualified neutrality” could also impact SpaceX’s categorization in the Russia-Ukraine conflict. The US has employed the controversial doctrine of “qualified neutrality” for nearly a hundred years. It allows States to support belligerent States that are “victim[s] of flagrant and illegal wars of aggression” without forfeiting neutral status.²¹⁸ The rationale turns on international legal treaties outlawing war as a matter of national policy, meaning neutral States can support a victim of aggression without losing neutral status.²¹⁹

In this vein, “the law of neutrality must be interpreted to accommodate both State practice and the evolution of international law *since* 1907,”²²⁰ which of course includes multiple World Wars, the advent of the United Nations, the drafting of the Geneva

²¹⁵ *Id.* art. 18.

²¹⁶ Natalie Sherman & Dearbail Jordan, *Who is Elon Musk and What is His Net-worth*, BBC (Dec. 3, 2024), <https://www.bbc.com/news/business-61234231> (last visited Jan. 6, 2026) (Musk became a US citizen in 2002).

²¹⁷ Hague Convention V, *supra* note 170, at Preamble.

²¹⁸ DEP’T OF DEF., LAW OF WAR MANUAL, § 15.2.2 (2023) [hereinafter DoD LOW Manual].

²¹⁹ *Id.*

²²⁰ Schmitt, *Providing Arms*, *supra* note 17 (emphasis added).

Conventions, and countless other historic, paradigm-shifting events. Qualified neutrality originated in post-World War II conflict prevention, culminating in the U.N. Charter's Article 2 prohibition on the use of force, which arguably creates an opening between the previous binary of belligerent and neutral statuses in a conflict.²²¹

The US relies on qualified neutrality to support more overt warfighting aid sent to Ukraine since the beginning of the present conflict, which "ranges from ammunition to anti-aircraft weapons."²²² More specifically, the US has provided more than \$65.9 billion worth of military ordnance and armaments since Russia's invasion, which includes air defense batteries, artillery and ammunition, rockets, tanks, armored vehicles, aircraft and unmanned aerial systems, missiles, small arms, mines, coastal defense systems, patrol boats and explosives.²²³ This wealth of military aid exposes the divorced nature of the two very different doctrines, with "qualified neutrality" suggesting such assistance does not invoke neutrality prohibitions at all, to include restricting the rather obvious provision of "war material."

The self-drawn lines on the orientation of weapons exported to Ukraine begins to illuminate an outer bound of what may "cross the Rubicon" from a non-belligerent to a party to the conflict. While assisting a victim belligerent State appears to unlock the qualified neutrality doctrine, the US has carefully stipulated, even if not quite as clearly delineated, that only "defensive" weapons used within Ukraine would be provided.²²⁴ This approach nests logically within the framework of a non-party to a conflict helping an injured State defend itself against unlawful incursion. The focus on the analysis under this framing turns on the use of the imported

²²¹ Mulligan, *supra* note162, at 1.

²²² *Id.*

²²³ Dep't of State., *US Security Cooperation with Ukraine: Fact Sheet*, STATE.GOV (Jan. 20, 2025), <https://www.state.gov/bureau-of-political-military-affairs/releases/2025/01/u-s-security-cooperation-with-ukraine> (last visited Jan. 6, 2026).

²²⁴ Samya Kullab, *What Does Biden's Decision to Allow Ukraine to Use Longer-Range US Weapons Mean?*, ASSOC. PRESS (Nov. 19, 2024), <https://apnews.com/article/ukraine-russia-war-biden-what-are-atacms-missiles-8d8621321af8c673bd42a5693c2ad1f4> (last visited Jan. 6, 2026); Mulligan, *supra* note162, at 2-3.

weapons (for defensive uses only) rather than the provisions of the weapons themselves.

One very recent caveat could be the US' role in providing F-16 fighter jets to Ukraine. While the US-made warplanes are technically being donated by the Danish and Dutch governments, the action is publicly lauded as "with the support of the United States."²²⁵ Noticeably absent from the Joint Statement and accompanied reporting is any overt restriction of their employment for defensive purposes only.²²⁶ Presumably, the argument for nesting this delivery within the qualified neutrality doctrine rests on the attenuated nature of US support (other States donated the privately made jets, and tangible US contributions towards that end are unclear), and any privately conveyed conditions on employment of any US-linked equipment. Under this framing, even the provision of the F-16 fighters could be within the bounds of supplying an injured State materiel needed to repel an illegitimate invasion and thus would not disturb the US' status as a qualified neutral.

Despite US justifications, many in the international community reject the qualified neutrality doctrine, despite persistent American advocacy.²²⁷ Most damaging perhaps is the relative

²²⁵ US Embassy in Ukraine, *Joint Statement on F-16s for Ukraine*, US DEPT OF STATE (Feb. 2, 2024), <https://ua.usembassy.gov/joint-statement-on-f-16s-for-ukraine/> (last visited Jan. 6, 2026).

²²⁶ *Id.*; Ido Vock and James Waterhouse, *Ukraine Receives First F-16 Fighter-Jets – Zelensky*, BBC (Aug. 4, 2024), <https://www.bbc.com/news/articles/c4ng1p72wlwo> (last visited Jan. 6, 2026); Tara Copp, *Ukraine Receives First F-16 Fighter Jets to Bolster Defenses Against Russia, Officials Tell AP*, ASSOC. PRESS (July 31, 2024), <https://apnews.com/article/ukraine-f16-jets-russia-missile-98fab7aa19e093bf8df3de015bc9006a> (last visited Jan. 6, 2026).

²²⁷ See, e.g., Edwin Borchard, *War, Neutrality and Non-Belligerency*, 35 AMER. J. OF INT'L L., 618, 618 (1941)

At Havana on March 27, 1941, Attorney General Jackson delivered an address designed to prove that as a matter of *law* the United States was now obliged to render to England (and presumably others) all aid 'short of war,' while 'at the same time it is the declared determination of the government to avoid entry into the war as a belligerent.' Apparently convinced that United States military aid to one belligerent alone cannot be justified by the traditional international law, the Attorney General feels obliged first to explode as obsolete the international law conceptions of war and neutrality of the past two centuries, culminating in The Hague Conventions, and to maintain that a new international law has now been revealed in the Covenant of the League of Nations, the Kellogg Pact, the Budapest 'Articles of Interpretation' of 1934, and the Argentine Anti-War

silence in public statements, leading scholars to observe that “subsequent developments in international law and practice have . . . been silent on the question of qualified neutrality.”²²⁸ Moreover, the US’ perspective could open the door for worse outcomes, like labeling an aggressor State for moral or political reasons, as a disguise for large State expansionism and escalating hostilities.²²⁹

Rather than crystallizing State practice, demonstrations of this non-belligerent gray zone have simply been dismissed or not discussed by the international community.²³⁰ Hence, qualified neutrality has not risen to meet customary international law standards,²³¹ and the active discourse suggests it may not be close. Despite a sensible justification and consistent practice spanning nearly a century, the US remains in the extreme minority in its belief of qualified neutrality as a recognized status.²³²

Notwithstanding a lack of multinational recognition, through this doctrine’s lens, the partial funding of the Starlink constellation abetting the Ukrainian military is merely another form of defensive support – along with ammunition and air defense munitions – for an aggrieved State. As such, SpaceX’s pervasive contributions would not forfeit neutrality for its co-sponsor, the US. Elon Musk’s temporary shutdown of the system to avoid facilitating what he

Treaty of 1933, all of which are alleged to make discrimination the new way of life for neutrals. The legislation of Congress requiring impartiality is not accorded even honorable mention. The ‘new international law’ is thus found in the vague and illusory monuments to the myth called ‘collective security,’ which crumbled under the impact of the first European crisis. It should be no surprise to the Attorney General that many international lawyers do not share his views on international law or how international law is created, or follow his unique construction of documents.

Id.

²²⁸ Pearce Clancy, *Neutral Arms Transfers and the Russian Invasion of Ukraine*, 72 INT’L. AND COMP. L. QUARTERLY, 527, 533 (2023).

²²⁹ See Michael N. Schmitt, “Strict” versus “Qualified” Neutrality, ARTICLES OF WAR, (Mar. 22, 2023), <https://lieber.westpoint.edu/strict-versus-qualified-neutrality/>.

²³⁰ Clancy, *supra* note 228, at 534 (citing W Heinstchel von Heinegg, “Benevolent” *Third States in International Armed Conflicts: The Myth of the Irrelevance of the Law of Armed Conflict*, in *International Law and Armed Conflict in EXPLORING THE FAULTLINES. ESSAYS IN HONOUR OF YORAM DINSTEIN* 554 (Michael Schmitt and J. Pejic, eds. 2007); Michael Bothe, “The Law of Neutrality”, in *THE HANDBOOK OF INTERNATIONAL HUMANITARIAN LAW*, 550 (Dieter Fleck, ed., 2013).

²³¹ Gutzman, *supra* note 17, at 107.

²³² Clancy, *supra* note 228, at 533.

viewed as an escalatory offensive attack further underscores that the aid is only offered for Ukraine's self-defense.²³³

As discussed above, the US' funding of Starlink to support Ukrainian military operations does not change the US' neutral status in the armed conflict. While providing weapons and ammunition may approach the boundaries of the persistent yet controversial "qualified neutrality doctrine," satellite services are categorically different in nature, practice, and jurisprudential treatment. Consequently, submission of these activities through either legal construct (traditional neutrality or qualified neutrality) produces the same conclusion that the neutrality wire has ultimately not been tripped, and any claims suggesting the US is or should be considered a belligerent in the Russia-Ukraine war based on its funding of Starlink satellites is unfounded.

iv. UNSCR Superseding Issue of Neutrality?

Any neutrality rules would likely yield to United Nations Security Council enforcement action under Chapter VII of the United Nations Charter.²³⁴ Article 2(5) mandates members "give the United Nations (UN) every assistance in any action it takes in accordance with the present Charter, and . . . refrain from giving assistance to any State against which the United Nations is taking preventative or enforcement action."²³⁵ Security Council resolutions may include restriction of materiel support to one belligerent (with no comparable restriction to the other belligerent), or actions in collective self-defense of one belligerent.²³⁶

If the neutrality rules did not yield in favor of States lending support to official UN activities, any State participating in such UN Security Council actions could lose neutrality protections and be considered a belligerent. Such an arrangement would undermine the utmost aims of the alliance, which is to "save succeeding generations from the scourge of war," respect international law and

²³³ Dearbail Jordan, *Elon Musk Says He Withheld Starlink over Crimea to Avoid Escalation*, BBC (Sept. 8, 2023), <https://www.bbc.com/news/world-europe-66752264> (last visited Jan. 6, 2026).

²³⁴ Schmitt, *Providing Arms*, *supra* note 17.

²³⁵ U.N. CHARTER art. 2 ¶ 5.

²³⁶ Schmitt, *Providing Arms*, *supra* note 17.

treaties and ensure armed force will not be used.²³⁷ Thus, if the doctrines of law were to run parallel rather than the Charter supersede, the body's primary enforcement arm would routinely clash with its own overarching foundational goals.

Unsurprisingly, permanent Security Council member Russia vetoed a draft resolution a few days into the war that aimed to end the conflict and direct complete Russian withdrawal.²³⁸ A draft resolution later in the year condemning the attempted annexations and again calling on Russia to unconditionally withdraw met the same fate.²³⁹ While UN action would unquestionably give nations such as the US license to significantly contribute in favor of a belligerent without technically losing its inherent neutral status, Russia's dual role as belligerent and permanent veto-wielding UN Security Council member almost certainly forecloses this possibility.

C. International Humanitarian Law and the Targetability of Starlink Satellites

American funding of Ukraine's Starlink services does not forfeit its status as a neutral party. However, the next step of the analysis considers Russia's options in countering these satellite systems on the battlefield, considering that its recourse is not against the US writ large. Rather, the analysis turns to the treatment of these Starlink satellites under international law given their one-sided contributions to the conflict. While other academic scholarship has addressed the prior questions, nearly all analysis stops here. This article completes the logical chain, positing that despite the US' neutrality, Starlink satellites enabling the Ukraine effort are lawfully targetable by Russia.²⁴⁰ Such an analysis requires a direct application under international humanitarian law and does not consider separate issues, to include the policy or ethics of striking a

²³⁷ U.N. CHARTER, Preamble.

²³⁸ U.N. SCOR, 8979th mtg., U.N. Doc. SC/14808 (Feb. 25, 2022).

²³⁹ United Nations, *Russia Vetoes Security Council Resolution Condemning Attempted Annexation of Ukraine Regions*, U.N. (Sept. 30, 2022), <https://news.un.org/en/story/2022/09/1129102> (last visited Jan. 6, 2026).

²⁴⁰ See Tara Brown, *Can Starlink Satellites be Lawfully Targeted*, ARTICLES OF WAR (Aug. 5, 2022), <https://lieber.westpoint.edu/can-starlink-satellites-be-lawfully-targeted/> (last visited Jan. 6, 2026) (offering a truncated distinction analysis but more robust discussion on proportionality in targeting Starlink satellites).

target on-orbit, nor the accompanying questions of necessity, humanity, and proportionality of such a strike.

Additional Protocol I of the Geneva Conventions (“AP I”) outlines what can and cannot become objects of attack. The Geneva Conventions of August 12, 1949 (“The Geneva Conventions”) addressed the centuries of disparate treatment civilians faced during conflict, which culminated in the atrocities of World War II.²⁴¹ While the Geneva Conventions “went a long way in addressing these concerns . . . large gaps remained . . . exacerbated by the vast changes that occurred in the means and methods of warfare since their adoption.”²⁴² AP I addressed these gaps.²⁴³ AP I is a landmark, practical document that provides States with a definitive criteria on who and what can be made the object of attack. While the US has not ratified AP I, it joins the vast majority of States in the international community by following the provisions discussed below.²⁴⁴

First, an object can only be subject to an attack if it qualifies as a military objective. AP I outlines the standard and analysis required for such a determination:

Attacks shall be limited strictly to military objectives. In so far as objects are concerned, military objectives are limited to those objects which by their nature, location, purpose or use make an effective contribution to military action and whose total or partial destruction, capture or neutralization, in the circumstances ruling at the time, offers a definite military advantage.²⁴⁵

This heuristic is commonly known as the “two-part test,” which requires 1) that the object by its nature, location, purpose or use makes an effective military contribution; and (2) that attacking

²⁴¹ Judith Gardam, *Historical Perspective*, Geneva Conventions Additional Protocols, U.N. Audiovisual Library of Int’l L., 1 (2021) (document on file with the authors).

²⁴² *Id.*

²⁴³ *Id.*

²⁴⁴ See THEODORE T. RICHARD, UNOFFICIAL UNITED STATES GUIDE TO THE FIRST ADDITIONAL PROTOCOL TO THE GENEVA CONVENTIONS OF 12 AUGUST 1949 98-106 (2019).

²⁴⁵ Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I) art. 52(2), June 8, 1977, 1125 U.N.T.S. 3. [hereinafter AP I].

the object would offer a definitive military advantage.²⁴⁶ When the “two elements are simultaneously present, there is a military objective in the sense of the Protocol.”²⁴⁷ This analysis creates a binary classification, in which whether or not an object has both civilian and military usefulness (or, “dual use”) is inconsequential. There is no form of “intermediate category of ‘dual use’ objects: either something is a military objective or it is not.”²⁴⁸ While the US recognizes military equipment and bases, and objects containing military objectives, as categorically military objects not requiring the two-part test, this viewpoint is grounded in the belief the objects automatically pass the test as a matter of law.²⁴⁹ Therefore, the question of whether an object is a military objective is decidedly bipartite even if it harbors both civilian and military functions, which is the case with the Starlink satellites, here.

i. Are Starlink Satellites Targetable? The Test, Part 1

The first part of the test analyzes what the object is and does, asking if by its “nature, location, purpose or use, [it] make[s] an effective contribution to military action.”²⁵⁰ An object’s nature refers to the type of object and often identifies military equipment, facilities, and other *per se* military objectives that inherently make an effective contribution to military action.²⁵¹ The location of an

²⁴⁶ DOD LOW Manual, *supra* note 218 (citing ICRC AP I Commentary, *supra* note 177 at ¶2018 at 635 (“The definition comprises two elements: a) the nature, location, purpose or use which makes an effective contribution to military action; b) the total or partial destruction, capture or neutralization which in the circumstances ruling at the time offers a definite military advantage. Whenever these two elements are simultaneously present, there is a military objective in the sense of the Protocol.”)).

²⁴⁷ COMMENTARY ON THE ADDITIONAL PROTOCOLS OF 8 JUNE 1977 TO THE GENEVA CONVENTIONS OF 12 AUGUST 1949 635 (Yves Sandoz, Christophe Swinarski and Bruno Zimmermann, eds., 1987). [hereinafter Additional Protocols Commentary].

²⁴⁸ Christopher Greenwood, *Customary international law and the First Geneva Protocol of 1977 in the Gulf conflict*, in PETER ROWE, *THE GULF WAR 1990-91 IN INTERNATIONAL AND ENGLISH LAW* 63, 73 (1993).

²⁴⁹ DOD LOW Manual, *supra* note 218, § 5.6.4 (2023).

²⁵⁰ AP I, *supra* note 245, art. 52(2).

²⁵¹ DOD LOW Manual, *supra* note 218, § 5.6.6.1. *See also* ICRC AP I Commentary, *supra* note 1777, ¶2020 at 636 (“A closer look at the various criteria used [i.e., nature, purpose, location, or use] reveals that the first refers to objects which, by their nature, make an effective contribution to military action. This category comprises all objects directly used by the armed forces: weapons, equipment, transports, fortifications,

object may innately enhance military effectiveness, such as an otherwise civilian structure providing troop cover or a surveillance site, or even unoccupied land of strategic importance in a specific conflict.²⁵² Use is an “object’s present function,” to include using an object for command and control that would otherwise “result in such objects providing an effective contribution to the enemy’s military action.”²⁵³

While the first three criterion are typically viewed through the present, evaluation of an object’s “purpose” necessarily requires a degree of forecasting and ideally, compelling intelligence. Under AP I Article 52(2), an object’s purpose is its intended or possible future use, which some critics label as ambiguous and out of touch with increased military reliance on civilian capabilities.²⁵⁴ Civilian

depots, buildings occupied by armed forces, staff headquarters, communications centres etc.”).

²⁵² DOD LOW Manual, *supra* note 218, §§ 5.6.6.1, 5.6.8.4 (citing *See, e.g., Canada, Statement on Ratification of AP I*, Nov. 20, 1990, 1591 UNTS 462, 465 (“It is the understanding of the Government of Canada in relation to Article 52 that: *a.* A specific area of land may be a military objective if, because of its location or other reasons specified in the Article as to what constitutes a military objective, its total or partial destruction, capture or neutralization in the circumstances governing at the time offers a definite military advantage, ...”). Germany, *Statement on Ratification of AP I*, Feb. 14, 1991, 1607 UNTS 526, 529 (“Article 52 of Additional Protocol I is understood by the Federal Republic of Germany to mean that a specific area of land may also be a military objective if it meets all requirements of Article 52, paragraph 2.”); Netherlands, *Statement on Ratification of AP I*, June 26, 1987, 1477 UNTS 300 (“It is the understanding of the Government of the Kingdom of the Netherlands that a specific area of land may also be a military objective if, because of its location or other reasons specified in paragraph 2, its total or partial destruction, capture, or neutralization in the circumstances ruling at the time, offers a definite military advantage;”); New Zealand, *Statement on Ratification of AP I*, Feb. 8, 1988, 1499 UNTS 358 (“In relation to Article 52, it is the understanding of the Government of New Zealand that a specific area of land may be a military objective if, because of its location or other reasons specified in the Article, its total or partial destruction, capture or neutralisation in the circumstances ruling at the time offers a definite military advantage.”); United Kingdom, *Statement on Ratification of AP I*, Jan. 28, 1998, 2020 UNTS 75, 77 (“*Re: Article 52* It is the understanding of the United Kingdom that: A specific area of land may be a military objective if, because of its location or other reasons specified in this Article, its total or partial destruction, capture or neutralization in the circumstances ruling at the time offers definite military advantage; ...”).

²⁵³ DOD LOW Manual, *supra* note 218, § 5.6.6.1.

²⁵⁴ Robin Geiss and Henning Lahmann, *Cyber Warfare: Applying the Principle of Distinction in an Interconnected Space*, 45 ISR. L. REV. 381, 386 (2012) (citing Additional Protocols Commentary, *supra* note 247; IAN HENDERSON, THE CONTEMPORARY LAW OF TARGETING: MILITARY OBJECTIVES, PROPORTIONALITY AND PRECAUTIONS IN ATTACK UNDER ADDITIONAL PROTOCOL I 84 (2002)).

airport runways usable by military forces if the need arises, or bridges and tunnels that could assist an adversary's military operations, may provide "an effective contribution to the enemy's military action, even though they are not being used at the moment for such purposes."²⁵⁵ In fact, "most civilian objects can become useful objects to the armed forces . . . for example, a school or a hotel . . . if they are used to accommodate troops or headquarters staff."²⁵⁶

However, according to the ICRC's AP I commentary, "it is clear . . . that in case of doubt, such places must be presumed to serve civilian purposes,"²⁵⁷ indicating a type of rebuttable presumption, which requires more than just speculation to overcome. This "doubt rule" has been subject to much debate and various departures among States, including debate over when and how to apply the rule and whether it is a new norm or legal standard.²⁵⁸ In 2015, the US plainly asserted that no legal presumption of civilian status existed under customary international law; however, its 2023 DoD Law of War Manual conversely declared that forces "must presume that persons or objects are protected from being made the object of attack unless information available at the time indicates that the persons or objects are military objectives."²⁵⁹ While the US stopped short of acknowledging this presumption arises out of any international legal obligation, and hence could become customary international law, the position now aligns more closely with a majority of actors and State parties to AP I.²⁶⁰

The final step of the first part of the AP I analysis asks whether those objects "make an effective contribution to military action."²⁶¹ A torts-like causality or proximity is not required, as the object "might make an effective, but remote, contribution . . . and . . . might be geographically distant from most of the fighting and nonetheless satisfy this element."²⁶² Accordingly, the contribution

²⁵⁵ DOD LOW Manual, *supra* note 218, §§ 5.6.6.1, 5.6.8.3.

²⁵⁶ Additional Protocols Commentary, *supra* note 247, at 636.

²⁵⁷ *Id.*

²⁵⁸ DOD LOW Manual, *supra* note 218, § 5.4.3.4.

²⁵⁹ *Id.* § 5.4.3.2.

²⁶⁰ Arthur van Collier, *Redefining Doubt in Cases of Uncertainty: An Analysis of the 2023 US DOD Law of War Manual Revision to the Presumption of Civilian Status in Armed Conflict*, 9 J. OF INT'L HUMANITARIAN ACTION, 1, 2 (2024).

²⁶¹ AP I, *supra* note 2455, art. 52(2).

²⁶² DOD LOW Manual, *supra* note 218, § 5.6.6.2.

is viewed in light of “the general prosecution of the war”²⁶³ and can include “activities providing administrative and logistical support to military operations such as transportation and communications systems . . . and industries of fundamental importance for the conduct of the armed conflict.”²⁶⁴ Hence, an object can be attenuated from any actual fighting and only assist with a support function, but it must fundamentally aid the enemy warfighting effort.

As applied here, the question becomes whether SpaceX’s Starlink satellites that provide enabling functions to the Ukrainian military operations are of a “nature” that contributes to military action.²⁶⁵ As discussed above, Starlink’s ability to enable a vast array of civilian services was indeed the original concept for the constellation. Because Starlink can, and does, provide both civilian and military connectivity, it cannot be said these satellites’ nature is inherently military; this is in contravention with those objects that are said by nature to “make an effective contribution to military action. This category comprises. . . . weapons, equipment, transports, fortifications, depots, buildings occupied by armed forces, staff headquarters,”²⁶⁶ indicating objects or structures that could be said to have a sole military function. While some individual Starlink satellites may be transmitting through military networks, this is a temporary, discretionary orientation based on a presently selected end user and not the sole function of the satellite networks.

On the other hand, the “location” of the Starlink satellites innately affords its user an operational advantage. Like an otherwise civilian structure providing a surveillance site or land affording strategic importance in a specific phase of conflict,²⁶⁷ these satellites are positioned in the ultimate high ground of outer space.²⁶⁸ The volume and positioning of the satellites in low earth orbit “has

²⁶³ A.P.V. ROGERS, *LAW ON THE BATTLEFIELD* 36 (1996).

²⁶⁴ MICHAEL BOTHE, KARL KOSEF PARTSCH, AND WALDEMAR A. SOLF, *NEW RULES FOR VICTIMS OF ARMED CONFLICTS: COMMENTARY TO THE TWO 1977 PROTOCOLS ADDITIONAL TO THE GENEVA CONVENTIONS OF 1949* 324 (1982) (citing AP I, *supra* note 245, art. 52(2)).

²⁶⁵ DOD LOW Manual, *supra* note 218, § 5.6.6.1. *See also* ICRC AP I Commentary, *supra* note 177, ¶2020, at 636.

²⁶⁶ ICRC AP I Commentary, *supra* note 177, ¶2020, at 636.

²⁶⁷ DOD LOW Manual, *supra* note 218, §§ 5.6.6.1, 5.6.8.4.

²⁶⁸ US Rep. Bill Posey, *Commentary, Space: The Ultimate High Ground*, SPACENEWS (Feb. 24, 2014), <https://spacenews.com/39613space-the-ultimate-high-ground/> (last visited Jan. 6, 2026).

provided reliable and widespread connectivity” for the Ukrainians.²⁶⁹ The resulting tactical advantages are not lost on the Russian adversary, who since the war’s inception, have doggedly tried jamming the satellites with little effect because of the strength and diversity of the signal networks and orbital locations.²⁷⁰

The “use,” or present function,²⁷¹ of the satellites is at least partially tailored to decisively provide connectivity to the Ukrainian military across large areas and for a variety of mission sets. In fact, Ukrainian forces are using the systems “on all front lines in the war with Russia.”²⁷² The satellites and their afforded utility “have played and continue to play a significant role . . . for communications, [and] for drone transmissions, especially in terms of a remote command post and so on.”²⁷³ The contributions to tactical level operations have been staggering, as the constellation “enables reconnaissance teams at the front to send drone-based video feeds to artillery units in the rear, reportedly cutting down the time between locating and striking a target from 20 minutes to 1 minute.”²⁷⁴ Based on these reports, the function of these satellites in the war is to facilitate an array of Ukrainian military undertakings at all phases of the conflict. And, while the delivered communications signals do not physically pull a trigger or open a bomb bay door, universal legal interpretations over the past century affirm the nexus is beyond sufficient.²⁷⁵

²⁶⁹ Gurantz, *supra* note 39.

²⁷⁰ Thibault Spirlet, *Russia Really Wants to Stop Ukraine from Using Elon Musk’s Starlink Satellites*, BUS. INSIDER (Jan. 27, 2024), <https://www.businessinsider.com/russia-stop-ukraine-using-elon-musk-starlink-satellites-2024-1> (last visited Jan. 6, 2026).

²⁷¹ DOD LOW Manual, *supra* note 218, §§ 5.6.6.1.

²⁷² Josh Pennington and Sean Lyngass, *Starlink in Use on ‘All Front Lines,’ Ukraine Spy Chief Says, But Wasn’t Active ‘For Time’ Over Crimea*, CNN (Sept. 10, 2023), <https://www.cnn.com/2023/09/10/europe/ukraine-starlink-not-active-crimea-intl-hnk/index.html> (last visited Jan. 6, 2026).

²⁷³ *Id.* (quoting Kyrylo Budanov, head of the Main Ukrainian Intelligence Directorate).

²⁷⁴ Gurantz, *supra* note 39 (citing Victoria Kim, Richard Pérez-Peña, and Andrew E. Kramer, *Elon Musk Refused to Enable Ukraine Drone Attack on Russian Fleet*, NEW YORK TIMES (Sept. 9, 2023)).

²⁷⁵ ICRC API Commentary, *supra* note 177, at 631, ¶1997 (reinforcing language from art. 24 of the 1923 Hague Rules of Air Warfare, which notes that bombardment is legitimate when “when directed...against...lines of communication or transport which are used for military purposes”); *Id.* at 636, ¶2020 (referencing “communications centres” as able to make an effective contribution to military action); *Id.* at 632, ¶2002 n. 3 (“List of Categories of Military Objectives...Those of the lines and means of

The analysis as to the satellite's "purpose" is "concerned with the intended future use."²⁷⁶ One could argue that any communication satellite *could* aid a military, but the "intended" qualifier and subsequent commentary noticeably attach a demonstrative requirement.²⁷⁷ While "most civilian objects *can* become useful objects to the armed forces," the default presumption is that an object remains civilian unless proven otherwise.²⁷⁸ Schools or hotels, while potentially useful for an armed force for lodging or basing, remain in a protected civilian status *unless* there are indications of "accommodat[ing] troops or headquarters staff."²⁷⁹ Thus, the "military purpose is deduced from an established intention of a belligerent as regards future use,"²⁸⁰ which is "therefore . . . crucial for the application of the purpose criterion."²⁸¹ As some scholars have lamented in cyber operations, "it will hardly ever be possible to . . . anticipate with any degree of certainty at which millisecond which components of the . . . infrastructure are or will be used for a particular military operation."²⁸² Conversely, there is perhaps no clearer indication of intent than Ukraine's persistent past, present, ever

communication...which are of fundamental military importance...supplies and material of a military character, such as transport and communications material"); MICHAEL BOTHE, KARL KOSEF PARTSCH, AND WALDEMAR A. SOLF, NEW RULES FOR VICTIMS OF ARMED CONFLICTS: COMMENTARY TO THE TWO 1977 PROTOCOLS ADDITIONAL TO THE GENEVA CONVENTIONS OF 1949 324 (1982) (citing AP I, *supra* note 245, art. 52(2)) (noting that military objectives may include "activities providing administrative and logistical support to military operations such as transportation and communications systems, railroads, airfields and port facilities and industries of fundamental importance for the conduct of the armed conflict"); Office of the Prosecutor, ICTY, *Final Report to the Prosecutor by the Committee Established to Review the NATO Bombing Campaign Against the Federal Republic of Yugoslavia*, ¶¶71-72 (June 13, 2000) ("On 23 April 1999, at 0220, NATO intentionally bombed the central studio of the RTS (state-owned) broadcasting corporation at 1 Aberdareva Street in the centre of Belgrade. ... The bombing of the TV studio was part of a planned attack aimed at disrupting and degrading the C3 (Command, Control and Communications) network. In coordinated attacks, on the same night, radio relay buildings and towers were hit along with electrical power transformer stations.").

²⁷⁶ ICRC API Commentary, *supra* note 177, at 636, ¶ 2022.

²⁷⁷ *Id.*

²⁷⁸ *Id.*

²⁷⁹ *Id.* (emphasis added).

²⁸⁰ Michael Bothe, *Targeting*, in LEGAL AND ETHICAL LESSONS OF NATO'S KOSOVO CAMPAIGN, 148 (Andru E. Wall, ed., 2002).

²⁸¹ See Geiss & Lahmann, *supra* note 254, at 386.

²⁸² *Id.* at 386-387.

increasing²⁸³ reliance on Starlink to fuel its existential defense against Russia.

Lastly, the part 1 analysis evaluates if the satellites, based on their nature, location, use, and/or purpose, “make an effective contribution to military action.”²⁸⁴ In the present case, Starlink’s value to the Ukrainian military in war can hardly be overstated, as outlined throughout this article. The omnipresent and tangible nature of the space system’s war supporting functionality far exceeds the controversial bottom threshold of war-sustaining contribution such as economic production.²⁸⁵ While some end users of the Starlink network within Ukraine use the service for decidedly civilian purposes, any satellites facilitating military operations—such as battlefield communications or bombardment of Russian forces—is making an effective contribution to Ukrainian military action.

ii. Are Starlink Satellites Targetable? The Test, Part 2

The second prong of the two-part test probes the value of the object to the enemy’s war effort, asking if its “total or partial destruction, capture or neutralization, in the circumstances ruling at the time, offers a definite military advantage.”²⁸⁶ The first clause captures removal of the object from enemy use in a purposefully expansive manner, with the drafters adding “capture” and “neutralization” to the more comprehensive and specific “destruction.”²⁸⁷ The clause, “in the circumstances ruling at the time,”²⁸⁸ allows for context and protections against *post facto* critique, but also “establishes an additional requirement of situational relevance.”²⁸⁹

²⁸³ Paul Lipscombe, *SpaceX Wins US Contract to Expand Ukraine’s Access to Starshield Satellite Network*, DATACENTERDYNAMICS (Dec. 9, 2024), <https://www.data-centerdynamics.com/en/news/spacex-wins-us-contract-to-expand-ukraines-access-to-starshield-satellite-network/> (last visited Jan. 6, 2026) (as reported on 9 Dec 24, “SpaceX has been awarded a contract to expand Ukraine’s access to a more secure, militarized version of its Starlink satellite network”).

²⁸⁴ AP I, *supra* note 245, art. 52(2).

²⁸⁵ Yoram Dinstein, *Legitimate Military Objectives Under the Current Jus In Bello*, in *LEGAL AND ETHICAL LESSONS OF NATO’S KOSOVO CAMPAIGN*, 145-46 (Andru E. Wall, ed., 2002).

²⁸⁶ AP I, *supra* note 245, art. 52(2).

²⁸⁷ Additional Protocols Commentary, *supra* note 247, at 635.

²⁸⁸ AP I, *supra* note 245, art. 52(2).

²⁸⁹ Henry Shue & David Wippman, *Limiting Attacks on Dual-Use Facilities Performing Indispensable Civilian Functions*, 25 CORNELL J. INT’L L. J., 559, 561 (2002).

Finally, the last hurdle of the second prong of the two-part test requires that such action “offers a definite military advantage.”²⁹⁰ While at first a seemingly low threshold, the drafters rely heavily on “definite” to increase expectations on the attacker while also providing more temporal and contextual flexibility. During drafting, the caveat “‘definite’ was discussed at length. The adjectives considered and rejected included the words: ‘distinct’ . . . ‘direct’ . . . ‘clear’ . . . ‘immediate’ . . . ‘obvious’ . . . ‘specific’ . . . and ‘substantial.’”²⁹¹ The wording was chosen to require some level of knowledge and certainty by disallowing “an attack which only offers potential or indeterminate advantages. Those ordering or executing the attack must have sufficient information available to take this requirement into account.”²⁹² Additionally, the exclusion of “immediate” and “obvious” suggest the gain need not be seen instantly or even be “readily apparent to the enemy or to outside observers because, for example, the expected military advantage might depend on the commander’s strategy or assessments of classified information.”²⁹³

Further, the anticipated military advantage must be analyzed considering both the specific engagement and its contribution to the more comprehensive strategy. The question of “whether a definite military advantage would result from an attack must be judged in the context of the military advantage anticipated from the specific military operation of which the attack is a part considered as a whole, and not only from isolated or particular parts of that operation.”²⁹⁴ But the consideration of the attack’s contribution must not be lazily applied, and no presumption exists that assumes any such engagement benefits the broader strategy. These requirements are “stricter than the simple condition that they must be ‘in support of the military effort.’”²⁹⁵

²⁹⁰ AP I, *supra* note 245, art. 52(2).

²⁹¹ Additional Protocols Commentary, *supra* note 247, at 635 (citing the diplomatic conference on Geneva humanitarian law from 1974-1977).

²⁹² *Id.* at 635.

²⁹³ DOD LOW Manual, *supra* note 218, § 5.6.7.3.

²⁹⁴ MICHAEL BOTHE, KARL JOSEF PARTSCH, AND WALDEMAR A. SOLF, NEW RULES FOR VICTIMS OF ARMED CONFLICTS: COMMENTARY TO THE TWO 1977 PROTOCOLS ADDITIONAL TO THE GENEVA CONVENTIONS OF 1949 324 (1982) (citing AP I, *supra* note 245, art. 52(2)).

²⁹⁵ Additional Protocols Commentary, *supra* note 247, at 648.

In applying Part 2 of the military objective test to the present case, real-world examples override the need for speculative analysis. The precursor to Starlink in Ukraine was the aforementioned ViaSat service, which was hacked by Russia an hour before the initial invasion.²⁹⁶ The malware wiped data from modems and routers, permanently disabling thousands of terminals and crippling Ukrainian military command and control.²⁹⁷ This neutralization, if not destruction, of key satellite communication infrastructure forced the Ukrainians to look for alternatives (i.e., SpaceX and Starlink) two days after the outbreak in hostilities.²⁹⁸ ViaSat's takedown, as Russian forces swept through Ukrainian territory and towards Kyiv, crippled the Ukrainians and offered a definite advantage for Russia.

In another instance, Elon Musk's refusal to project Starlink service in Crimea that would have facilitated a Ukrainian counter-offensive²⁹⁹ also supports passing the second prong. Notwithstanding the wisdom or reasoning behind Musk's decision, the loss of service was cited as the sole reason for shelving the planned attack on the Russian navy,³⁰⁰ demonstrating the operational and opportunistic gains afforded by Starlink. Moreover, Russia's dogged, persistent attempts to illicitly acquire and even steal Starlink terminals for its own use³⁰¹ indicate the unambiguous military advantage supplied by the service to Ukraine in the present circumstances.

Accordingly, Starlink satellites in use by the Ukrainian military in the Russian conflict undoubtedly pass the two-part test of distinction under international law,³⁰² rendering them as

²⁹⁶ O'Neill, *supra* note 3.

²⁹⁷ *Id.*

²⁹⁸ Brianna Bell, *Starlink and Ukraine: How Elon Musk's Company Has Made Him a Key Figure in Global Affairs*, THE GENERATION (Dec. 26, 2024), <https://the-generation.net/starlink-and-ukraine-how-elon-musks-company-has-made-him-a-key-figure-in-global-affairs/> (last visited Jan. 6, 2026).

²⁹⁹ Jordan, *supra* note 233.

³⁰⁰ *Id.*

³⁰¹ Reuters, *supra* note 67; Alex Horton and Eva Dou, *Russia's Illicit Starlink Terminals Help Power its Advance in Ukraine*, THE WASH. POST (Oct. 12, 2024), <https://www.washingtonpost.com/world/2024/10/12/starlink-russia-ukraine-elon-musk/> (last visited Jan. 6, 2026); Nick Walsh, et al., *Ukraine Relies on Starlink for its Drone War. Russia Appears to Be Bypassing Sanctions to Use the Devices Too*, CNN (Mar. 26, 2024), <https://www.cnn.com/2024/03/25/europe/ukraine-starlink-drones-russia-intl-cmd/index.html> (last visited Jan. 6, 2026).

³⁰² AP I, *supra* note 245, art. 52(2).

targetable by Russia. Setting aside follow-on questions regarding policy, proportionality, currency of intelligence, or even wisdom with respect to certain weaponizing solutions chosen for the satellites, it is indisputable that Russia would be within its rights to attack these Starlink satellites amidst the ongoing international armed conflict. While States inside and outside the conflict may possess sensitivities about targeting such dual-use objects (here, satellites that provide utility to both the civilian population and the military),³⁰³ this normative characterization leaves unchanged the status as targetable military objectives: “[F]rom the legal perspective, such objects are either military objectives or they are not; there is no intermediate legal category.”³⁰⁴

V. RECOMMENDATIONS

While the growing role of private space actors in warfare leaves much to be discussed, this uncertainty is also a ripe opportunity for States, policymakers, and industry to shape the rules and norms surrounding nongovernmental entities operating in, from, and through outer space. First, this article highlighted the mechanism by which States are responsible for non-State activity under the Outer Space Treaty’s Article VI. However, much in Article VI remains to be solidified. Principally, “national activity” remains undefined. There are competing approaches on how to delineate what is, or is not, a national activity for which a State would be responsible. For example, one approach emphasizes the “national” component in the article, whereby any activity conducted by a State’s nationals is activity for which the State is responsible. Another approach relies more heavily on a liability analysis and whether the

³⁰³ ICRC AP I Commentary, *supra* note 177, ¶2023 at 636 (“Other establishments or buildings which are dedicated to the production of civilian goods may also be used for the benefit of the army. In this case the object has a dual function and is of value for the civilian population, but also for the military. In such situations the time and place of the attack should be taken into consideration, together with, on the one hand, the military advantage anticipated, and on the other hand, the loss of human life which must be expected among the civilian population and the damage which would be caused to civilian objects”).

³⁰⁴ DOD LOW Manual, *supra* note 218, § 5.6.1.2 (citing Christopher Greenwood, *supra* note 248, at 73) (“If an object is a military objective, it may be attacked (subject to the requirements of the principle of proportionality which are discussed in the next section), while if it is a civilian object, it may not be attacked. There is no intermediate category of ‘dual use’ objects: either something is a military objective or it is not.”).

State responsible was the launching State. The last school of thought stresses the levers of control available to a State to assess whether responsibility attaches. Each approach has vastly different consequences for responsibility. While this article ultimately adopted a control-based analysis, it does not resolve which approach is the “right” or “best” approach. However, now is the opportunity to resolve such crucial legal questions to guide policy and lawmakers when another situation like Starlink in Ukraine occurs.

Additionally, private, commercial satellites enabling a belligerent’s military operations in a conflict are valid targets under international humanitarian law, and companies and the States using such services should each pursue increased operational redundancy. In both cases, the end user will be expecting the delivery of capabilities, albeit according to differing degrees of want and need. For commercial providers, interruption or termination of service to customers will magnify the loss of satellite functionality; for States, service disruption could influence Government and military functions with potentially life or death consequences for those on the battlefield.

Some entities are already acting in anticipation, with no doubt scores to follow. Satellite companies are concentrating on constellation proliferation in scales never before seen.³⁰⁵ And, the US is creating a flagship Commercial Augmentation Space Reserve, modeled after the Civil Reserve Air Fleet,³⁰⁶ whereby presently executed contracts lock in surge capacity at certain price levels if a need arises.³⁰⁷ However, outer space is no longer a forum solely inhabited by governmental actors, and private space companies should

³⁰⁵ See Matthew A. Hallex & Travis S. Cottom, *Proliferated Commercial Satellite Constellations: Implications for National Security*, 97 JOINT FORCE QUART. 20, 21 (2020).

³⁰⁶ Dept. of Transp., *Civil Reserve Airfleet*, US DEPT. OF TRANSP. (Feb. 23, 2024), <https://www.transportation.gov/mission/administrations/intelligence-security-emergency-response/civil-reserve-airfleet-allocations#:~:text=HISTORY,a%20major%20national%20defense%20emergency> (last visited Jan. 6, 2026) (“The CRAF program was established by a joint agreement between the DOD and the Department of Commerce on December 15, 1951. The program was generated by DOD’s realization, following the Berlin airlift, of the need for supplemental airlift to support a major national defense emergency.”).

³⁰⁷ Greg Hadley, *Space Force Ready to Sign with Commercial Reserve Satellite Partners*, AIRANDSPACEFORCES, (Nov. 21, 2024), <https://www.airandspaceforces.com/space-force-first-contracts-commercial-augmentation-space-reserve/> (last visited Jan. 6, 2026).

develop contingency plans and realize the consequences that their systems could be targetable if they aid belligerents in armed conflict.

Finally, as the US shifts away from international organizations,³⁰⁸ it should remain engaged in multinational space-focused bodies like the United Nations Committee on the Peaceful Uses of Outer Space and the Conference on Disarmament. Outer space is a non-sovereign, transnational domain, and is only going to continue to become increasingly congested, contested, and competitive.³⁰⁹ International organizations and multilateral diplomacy efforts like the Artemis Accords³¹⁰ offer important forums for States to refine their interpretations on the rules of the road in outer space. Maintaining leadership in these international organizations as well as spearheading efforts to solidify non-binding soft law or best practices for private actors operating in contested zones should continue in the interim.

³⁰⁸ Megan Messerly, *US to Again Withdraw from the UN Human Rights Council, Stop UNRWA Funding*, POLITICO (Feb. 3, 2025), <https://www.politico.com/news/2025/02/03/us-withdraw-un-human-rights-council-trump-00202100> (last visited Jan. 6, 2026); Patrick Wingrove, et al., *Trump Orders US Exit from World Health Organization*, REUTERS (Jan. 21, 2025), <https://www.reuters.com/world/us/trump-signs-executive-withdrawing-world-health-organization-2025-01-21/> (last visited Jan. 6, 2026).

³⁰⁹ NATIONAL SECURITY SPACE STRATEGY, US DEP'T OF DEF. & OFFICE OF THE DIR. OF NAT'L INTEL (Jan. 2011), https://www.dni.gov/files/documents/Newsroom/Reports%20and%20Pubs/2011_nationalsecurityspacestrategy.pdf. (last visited Jan. 6, 2026).

³¹⁰ The Artemis Accords: Principles for Cooperation in the Civil Exploration and Use of the Moon, Mars, Comets, and Asteroids, NAT'L AERONAUTICS & SPACE ADMIN., <https://www.nasa.gov/specials/artemis-accords/img/Artemis-Accords-signed-13Oct2020.pdf> [hereinafter Artemis Accords] (last visited Jan. 6, 2026). NASA and the Department of State spearheaded the Artemis Accords with seven founding nations to reaffirm basic principles in international space law; *Artemis Accords*, NAT'L AERONAUTICS & SPACE ADMIN., <https://www.nasa.gov/artemis-accords/> (last visited, Jan. 6, 2026). As of writing, there are 53 signatories to the Accords (CAO Feb 2025). Crucially, China and Russia are not signatories; See Elliot Ji. Michael B. Cerny, & Raphael J. Piliero, *What Does China Think About NASA's Artemis Accords?*, THE DIPLOMAT (Sept. 17, 2020), <https://thediplomat.com/2020/09/what-does-china-think-about-nasas-artemis-accords/> (last visited Jan. 6, 2026) (highlighting that Chinese officials have likened the Accords to the 18th-century enclosure movement of Great Britain).

VI. CONCLUSION

The role of Starlink in the Ukraine-Russia war showcases a growing reality of modern warfare – outer space will continue to play an appreciable role, spearheaded by private, non-State providers. Starlink’s role in Ukraine raises important questions for international space law, international humanitarian law, and neutrality law, which have largely been under-addressed in existing literature. This article aimed to address that lacuna, and advance much-needed academic discussions surrounding how Starlink and SpaceX’s role in Ukraine could impact the US’ position in the conflict. Section II updated the academic discussion with the most up-to-date examination of the relationships between SpaceX, Starlink, and the US Government.

Section III examined that relationship from a space-specific perspective. This Section novelly articulated how the US is meeting its international space law obligations through Article VI of the Outer Space Treaty. It advanced that the US is responsible for SpaceX activity in Ukraine because such activity is a “national activity” of the US since SpaceX is incorporated, and a citizen of, the US. Next, it argued that the US is ensuring that Starlink is abiding by other international space law principles such as: non-appropriation, freedom of access, and due regard. Moreover, this Section raised important questions about Starlink’s status as a mega-constellation that are unresolved in the literature, and should be a useful starting point for future academic studies on the subject. Ultimately, it concluded that the US is meeting its international space obligations pursuant to Article VI of the Outer Space Treaty.

Importantly, understanding the scope of the US’ relationship in the Russia-Ukraine conflict cannot end with examining its obligations under outer space law. Section IV continues the logical argument. If the US is responsible for SpaceX activities in Ukraine, how does that responsibility intersect with its neutrality obligations, and what is the status of the satellite constellation? Under the law of neutrality, the US’ support for Starlink has not threatened its status as a neutral party. Finally, even though the US remains neutral in the conflict, the Starlink satellites fomenting Ukrainian military operations may be attacked under the law of armed conflict. The two-part test codified in Additional Protocol I reveals these Starlink satellites could be legitimately targeted by

Russia under international humanitarian law. This article concludes with a series of recommendations for law makers, policy advocates, and space-faring companies, particularly emphasizing that their satellites could similarly become targetable if used in certain ways during armed conflicts.

The war in Ukraine is advancing into its fourth year, and the use of Starlink remains pervasive. As a recent article summarized, the questions involving “outer space and private operators in international armed conflicts” requires greater clarity that “needs to be established as soon as possible.”³¹¹ This article agrees, and trusts that the contributions here will inspire further debate for academics, practitioners, and entrepreneurs as outer space continues to grow in economic and military prominence.

³¹¹ Frans von der Dunk, *Space Privateers or Space Pirates? Armed Conflict, Outer Space, and the Attribution of Non-State Activities*, ARTICLES OF WAR (July 26, 2024), <https://lieber.westpoint.edu/space-privateers-pirates-outer-space-attribution-non-state-activities/> (last visited Jan. 6, 2026).