DISARMAMENT AND INTERNATIONAL SECURITY COMMITTEE

RESEARCH PAPER

MESSAGE FROM THE COMMITTEE PRESIDENT

Dear Delegate,

Welcome to the research paper we have prepared for you. This is a great starting point for your research.

If you have any questions about this research, please write to us at *obsmun@obs.edu.pt*

Happy debating and see you soon.

PURPOSE OF THIS GUIDE

This research guide was compiled by the Secretariat of the OBSMUN 2025. OBSMUN aims to provide delegates with the opportunity to further develop their research skills that will help them in their academics. Thus, these research guides do not cover the whole breadth of the issues at hand. Instead, they are designed to provide a basis from which delegates can undertake their own research into the topics, with the aim of developing clauses from their independent research.

This guide is not sufficient as background information to prepare yourself for the country, since it does not look at the information from your countries point of view, but instead a generalised one.

WHEN RESEARCHING FOR INFORMATION REGARDING YOUR COUNTRY YOU MAY WANT TO ASK YOURSELF THE FOLLOWING QUESTIONS;

- **Where does your country stand on the issue being addressed?**
- **Does it affect the country you are representing?**
- **Would your country be in favour / against taking action on the issue?**
- **What policies are currently in place in your country to address this issue?**
- **Given your country's stance & policies, what type of solution would you support?**
- **What measures would benefit your country?**
- **What measures would be detrimental to your country? Which ones would your country be especially be opposed to?**

TOPIC 1: THE ISSUE OF LIMITING THE USE OF AUTONOMOUS LETHAL WEAPONS AND ARTIFICIAL INTELLIGENCE (AI) IN MODERN WARFARE

Background information

Since the recent spike in development in Artificial Intelligence (AI) systems since the public release of Large Language Models (LLMs) in 2020 (Wikimedia Foundation, 2025), we have seen the implementation of these types of technologies becoming ubiquitous in many aspects of our societies. From facial recognition technologies to self-driving cars, these systems have developed at an enhanced rate, and has allowed for the development of modern conflicts all around the world.

Autonomous Lethal Weapons (ALWs) are those that do not require direct operation from a human once deployed in the battlefield. While these don't necessarily need AI, the most common ALWs have recently implemented these algorithms, adding a new layer of complexity to the question in hand. (United Nations, 2023)

The most common types of ALWs are defensive, ranging from rudimentary antipersonnel or antivehicle mines to more technologically advanced systems such as the USA's Phalanx Close-In Weapon System (CIWS) (Wikimedia Foundation, 2025), or Israel's Iron Dome.

Efforts have already been showcased with the aim of limiting these weapons in the battlefield, as we can see with the 1997 Anti-Personnel Landmines Convention (Ottawa Treaty), where these were prohibited by the United Nations (UN), and currently 166 countries have ratified the treaty (United Nations, n.d.). But in 2025, at least 6 countries in Eastern

Europe: Ukraine, Poland, Lithuania, Latvia, Estonia and Finland, have started to withdraw from the treaty (Wikimedia Foundaiton, 2025), therefore showcasing the need for new, more detailed limitations for current and future ALWs, their manufacture, and application in armed conflict.

The combination of these technologies to create what's informally known as "slaughterbots" is a matter of the past, since ALW systems have been present in conflicts as early as 2020, during the Libyan civil war, where STM Kargu-2 drones engaged with retreating, Haftar-affiliated forces (Hernandez, 2021). During the 2020 Nagorno Karabakh conflict between Armenia and Azerbaijan, where Azerbaijan's prevalence of ALW systems such as Harop drones (Kozyulin, 2021), which were loitering kamikaze drones, caused a decisive advantage for the Azerbaijanis army. Years later, in the Russo-Ukrainian war, we are able to observe the development of these technologies with the development and addition of ALW systems such as the Bayraktar TB2 drones, Uran-9 combat vehicle, and Kalibr cruise missiles, within others, were deployed onto the battlefield as a strategic component to strike enemy positions (Tuset Varela, 2023).

Currently, almost all major military powers are developing new ALW technologies that rely more on AI to perform better and in groups. The currently known major military powers

developing these are: India, Israel, Russia, and the United States (Human Rights Watch, 2025).

Past UN Action

Since 2018, the UN Secretary-General (António Guterres) has maintained the statement that ALWs are “politically unacceptable and morally repugnant”, and has called for their prohibition internationally. In the 2023 policy brief “New Agenda for Peace”, António Guterres reiterated his call, urging Member States to conclude a legally binding agreement to prohibit ALWs by 2026 (United Nations, 2023).

On the 79th session of the General Assembly, a page report was submitted on July 2024 by the UN Secretary-General, where the views and data submitted by Member and observer States, alongside other stakeholders, were consolidated with the aims of informing the First Committee deliberations about this topic. This showcases the differences between various parties as they still aim to reach a consensus on the definition for ALWs, the need for human control, and how to mitigate the existing challenges and concerns of this emerging technology (Guterres, 2024).

As expressed by the document, multiple Member States and stakeholders encouraged the participation of the Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems as a balance between safety and self-interests of Member States, and since the group has been actively involved with the First Committee in the development of an international legal framework for ALW systems (United Nations Office for Disarmament Affairs, 2025).

Concerns and Challenges

Many of the current concerns and challenges around ALW systems revolve around the lack of accountability from these systems, since there is no clear guidelines for who should be responsible for the use of force by ALW, which means it is technically illegal under the International Humanitarian Law (IHL), since it requires individuals to be judged for war crimes or breaches of the Geneva Conventions, which is currently impossible due to this lack of accountability. This worry is further exacerbated by their unpredictability, since not only these systems are designed to behave this way as to remain ahead of enemy ALWs, but in real case scenarios, where multiple interactions between the situational context and the algorithm are present at any time, predicting their behaviour is very difficult, therefore raising concerns about accountability for these behaviours (Future of Life Institute, 2025).

The targeting of groups, either on purpose or due to an error, is also an issue that has surfaced due to the ease of proliferation and scalability of these systems. Their mass production and use of facial recognition or biometric identifiers could allow their users to target people based on their perceived age, gender, race, ethnicity, or others. ALWs could substantially increase targeted violence against a specific demographic of individuals, leading to events such as ethnic cleansing and genocide (Future of Life Institute, 2025).

As a last example of some of the main concerns of these technologies, it regards on the IHL's principle of proportionality, which states that the effects of a military attack on civilian population or infrastructure must not be disproportionate to the military advantage sought

(International Committee of the Red Cross, n.d.). This obliges military forces to distinguish between civilians and combatants, and target their attacks only towards the latter. The problem is that ALWs lack the human judgment necessary to determine whether the predicted harm outweighs anticipated military advantage, which is worsened by the fact that the algorithms will be coded to prioritise the mission over civilian casualties, no matter the cost. The only way to mitigate or resolve this issue is with international regulations being set in place for the creation and use of these technologies (Future of Life Institute, 2025).

Possible Solutions

Potential clauses may create general guidelines for Member States to follow and apply to their specific context, focusing on general limitations and cases where ALWs should be allowed. They also may touch on the mitigation of some or all of the concerns presented in this research paper, or they might try to establish a definition or classification of ALWs depending on their characteristics.

To ensure countries establish and follow the correct guidelines, potential clauses have to not only propose on potential ways to mitigate this issue, but also the creation of mechanisms

or agencies to ensure that countries operate under the proposed guidelines, and punish the countries that infringed the agreed guidelines.

Final Remarks

As already remarked by figures such as UN Secretary-General António Guterres, it is crucial that a set of guidelines

is established internationally to begin placing limitations in warfare situations, ensuring accountability for those responsible of issues or intentional actions, and protecting non-combatants from unnecessary damages, as stipulated by the IHL.

Relevant Sources

Future of Life Institute. (2025). Autonomous Weapons. Retrieved September 6, 2025, from The Risks of Autonomous Weapons: https://autonomousweapons.org/the-risks/ Guterres, A. (2024, July 1). United Nations General Assembly. Retrieved September 6, 2025, from Lethal autonomous weapons systems: https://docs.un.org/en/A/79/88 Hernandez, J. (2021, June 1). npr. Retrieved September 5, 2025, from A Military Drone With A Mind Of Its Own Was Used In Combat, U.N. Says: https://www.npr.org/2021/06/01/1002196245/a-u-n-report-suggests-libya-saw-the-first-battlefield-killing-by-an-autonomous-d Human Rights Watch. (2025, May 21). Human Rights Watch. Retrieved September 6, 2025, from UN: Start Talks on Treaty to Ban 'Killer Robots': https://www.hrw.org/news/2025/05/21/un-start-talks-treaty-ban-killer-robots International Committee of the Red Cross. (n.d.). International Committee of the Red Cross. Retrieved September 6, 2025, from Proportionality: https://casebook.icrc.org/a_to_z/glossary/proportionality Kozyulin, V. (2021, September 2). Valdai Discussion Club. Retrieved September 6, 2025, from Autonomous Weapons and the Laws of War: https://valdaiclub.com/a/highlights/autonomous-

weapons-and-the-laws-of-war/ Tuset Varela, D. (2023, June 8). Universitat Oberta de Catalunya. Retrieved September 6, 2025, from The role of Autonomous Weapons Systems (AWP) in the Ukrainian-Russian conflict: a critical analysis: https://blogs.uoc.edu/edcp/es/the-role-of-autonomous-weapons-systems-in-the-ukrainian-russian-conflict/ United Nations Office for Disarmament Affairs. (2025). Retrieved September 6, 2025, from Convention on Certain Conventional Weapons — Group of Governmental Experts on Lethal Autonomous Weapons Systems: https://meetings.unoda.org/ccw/convention-on-certain-conventional-weapons-group-of-governmental-experts-on-lethal-autonomous-weapons-systems-2025 United Nations. (2023). United Nations Office for Disarmament Affairs. Retrieved September 5, 2025, from Lethal Autonomous Weapon Systems (LAWS): https://disarmament.unoda.org/the-convention-on-certain-conventional-weapons/background-on-laws-in-the-ccw/ United Nations. (n.d.). United Nations Office for Disarmament Affairs. Retrieved September 5, 2025, from Anti-Personnel Landmines Convention: https://disarmament.unoda.org/anti-personnel-landmines-convention/ Wikimedia Foundaiton. (2025, August 31). Wikipedia. Retrieved September 5, 2025, from Ottawa Treaty: https://en.wikipedia.org/wiki/Ottawa_Treaty#:~:text=By%20August%202025%2C%20166%20states,the%20end%20of%20the%20conflict. Wikimedia Foundation. (2025, August 17). Wikipedia. Retrieved September 5, 2025, from Phalanx CIWS: https://en.wikipedia.org/wiki/Phalanx_CIWS Wikimedia Foundation. (2025, September 5). Wikipedia. Retrieved September 5, 2025, from History of artificial intelligence:

https://en.wikipedia.org/wiki/History_of_artificial_intelligence#Large_language_models,_AI_boom_(2017–present)

TOPIC 2: THE ISSUE OF USING PRIVATE MILITARY COMPANIES (PMC'S) IN NATIONAL INTERNATIONAL

Background information

Private Military Companies (PMCs) are independent corporations which offer military services to governments or organizations, specialising in providing combat and protection forces (Bell, 2025). These services may include, but not be limited to, combat services, intelligence gathering, logistics, and training, or a combination of all (LaBrie, 2025).

Despite appearances, PMCs are not a thing of the 21st century; During the 18th and 19th centuries, the English trading East India Company already had a large army coming from the private sector. Nonetheless, the outsourcing of military operations to private contractors through most of the 20th century fundamentally disappeared, and this was mostly relayed to state agencies. After the Cold War, the abundance of military specialists and equipment, alongside the rise of a significant amount of smaller conflicts, PMCs rose again, forming companies that gained their reputation throughout these conflicts (Bell, 2025).

With the persistent conflicts in various volatile zones, multiple PMCs grew internationally and started to provide services aside from military operations, mostly around security. The most common examples as of 2025 would be British G4S, now focused on private security, Russian PMC Wagner, and US's Constellis Holdings (former Blackwater) (Jawad, 2024); (Constellis, n.d.).

While a significant amount of the populations considers PMCs and mercenaries to be interchangeable terms from one another, but this matter is not true due to certain marked distinctions between the practices of mercenaries and modern PMCs. In one hand, mercenaries are intrinsically motivated by money making, changing sides based solely on the higher bidder within (or outside of) the military conflict. These cause the destabilization of a nation, and often take part in coup d'etats or civil wars. But PMCs are corporate entities, which aim to maintain a reputation as to acquire future contracts and continue as a company. While mercenaries work for whoever pays more, PMCs conduct their work under contractual obligations to the clients, with focus on providing tactical support rather than conducting independent actions on behalf of the client (Garvie & Genser, 2016).

Despite this difference, certain PMCs operate in a covert manner, receiving contracts through word of mouth or undisclosed contracts, and therefore would operate similarly to the traditional definition of mercenaries. These covert PMCs operate in this way as to provide plausible deniability for their clients after conducting operations that break international or national law (Pinney, 2021). The most known example, due to the Russo-Ukrainian war, is Russia's PMC Wagner Group, which is known to have covertly

operated in Ukraine, as well as in the Syrian civil war (Serwat & Nsaibia, 2025), the Central African Republic, Mozambique, Mali, and a handful of other suspected conflicts which have not yet been verified (Giustozzi, Goodenough, Winterbotham, de Deus Pereira, & White, 2025).

After an international process launched by the Government of Switzerland and the International Committee of the Red Cross (ICRC), a document intended to promote respect for International Humanitarian Law (IHL) and Human Rights Law (HR) whenever PMCs are present in armed conflicts. This was named the Montreux document, and was finalised in September 2008 by 17 States: Afghanistan, Angola, Australia, Austria, Canada, China, France, Germany, Iraq, Poland, Sierra Leone, South Africa, Sweden, Switzerland, the United Kingdom of Great Britain and Ireland, Ukraine and the United States of America. This document is not legally binding, but is instead a recollection of relevant international legal obligations and good practices to follow (Swiss Confederation; International Committee of the Red Cross, 2008). As of June 2025, 61 states and 3 international organisations support this document (Montreuz Document Forum, 2025). Despite broad participation, this document was made simply with the purpose of providing starting guidelines and recommendations whilst a more detailed international legislation is not available.

Past UN Action

The United Nations (UN) has taken previous action upon mercenaries and their limitations in warfare, and while it has been previously stated that mercenaries and PMCs are not interchangeable terms, they provide useful guidance on what

potential legislations for PMCs could correlate. In 1989, the International Convention against the Recruitment, Use, Financing and Training of Mercenaries was adopted under the resolution 43/44 of the General Assembly (GA). In this Article 1 of this Convention, the conditions that potential mercenaries must meet to be considered mercenaries are established:

1. A mercenary is any person who:

a. Is specially recruited locally or abroad in order to fight in an armed conflict;

b. Is motivated to take part in the hostilities essentially by the desire for private gain and, in fact, is promised, by or on behalf of a party to the conflict, material compensation substantially in excess of that promised or paid to combatants of similar rank and functions in the armed forces of that party;

c. Is neither a national of a party to the conflict nor a resident of territory controlled by a party to the conflict;

d. Is not a member of the armed forces of a party to the conflict; and

e. Has not been sent by a State which is not a party to the conflict on official duty as a member of its armed forces.

2. A mercenary is also any person who, in any other situation:

a. Is specially recruited locally or abroad for the purpose of participating in a concerted act of violence aimed at :

i. Overthrowing a Government or otherwise undermining the constitutional order of a State; or

ii. Undermining the territorial integrity of a State;

b. Is motivated to take part therein essentially by the desire for significant private gain and is prompted by the promise or payment of material compensation;

c. Is neither a national nor a resident of the State against which such an act is directed;

d. Has not been sent by a State on official duty; and

e. Is not a member of the armed forces of the State on whose territory the act is undertaken.

(United Nations)

The issue with the previous article is that, for an individual to be considered a mercenary, all of the points in either of the 2 clauses must apply, which makes it very difficult to consider PMCs since it would require going through every individual staff. Alongside, the evasion of being found a mercenary is very easy due to the loose definitions provided by the convention, making prosecution of PMCs responsible for breaches of IHL or HR laws nearly impossible (Pinney, 2021).

In 2011, the Human Rights Council of the GA submitted a: Draft of a possible Convention on Private Military and Security Companies (PMSCs) for consideration and action by the Human Rights Council. This draft aimed to establish binding rules to regulate, monitor, and oversee all PMCs worldwide, and enhancing responsibility on the States where they are based. It also provided multiple measures to mitigate the concerns regarding accountability, responsibility, and adherence to IHL and HR law (United Nations General Assembly, 2011). This Draft has not been

passed, and from the known information, is still being discussed and amended to reach a consensus amongst states.

After this, the UN has held debates relating PMCs in various occasions, such as in October 2018, where their harms were mentioned in a debate by the Third Committee (Social, Humanitarian and Cultural) relating discussions about Goal 16 of the Sustainable Development Goals, which aims to achieve peace, justice and strong institutions by 2050 (United Nations General Assembly, 2018).

Although the full extent of this action is unknown due to confidentiality and the sensitive nature of the agreements, it is important to note that the UN uses PMCs for certain activities, though mostly in relation to training, logistical, and support services rather than for combat purposes. This hints that the UN does not aim to prohibit the usage of PMCs, but instead to regulate their usage to prevent illegal actions to be taken by these PMCs with limited consequences (Gilje Østensen, 2011).

Concerns and Challenges

There are multiple concerns still in debate about these systems, but one of the most important ones is the legitimacy and accountability of PMCs and their operations. This is because they generally operate in conflicts within countries with weak legal systems, and also lack effective oversight mechanisms to ensure they are held accountable for their actions. This issue is exacerbated with the issue of the Geneva Conventions, which make it unclear whether PMCs are recognised as combatants or non-combatants. This helps shield the PMCs from serious legal consequences for the execution of war crimes, crimes against humanity, or genocide, where in the best case an individual can be held

accountable for these; the issue is that they are difficult to prosecute. This ambiguity about PMCs sometimes makes them sign immunity agreements with the contracting state, which constitutes a real danger due to the impunity given to the PMCs, who don't need to regard for war crimes due to a lack of consequences (Council of the European Union, 2023) . Examples of this issue were clearly shown with Blackwater's massacre in Iran, where the US government was not able to properly prosecute the culprits due to a lax agreement signed between Blackwater and the US Department of Defence (Hadman, 2024).

Another of the main concerns revolves around the ethicality of these practices, especially revolving the commercialization of war. Having profit-driven companies directly and actively intervening in conflicts could result in conflicts of interest, and create incentives for PMCs to purposefully prolong the conflict. Or in the other hand they could use their gained reputation in the areas of conflict to gain advantageous agreements, immunity deals, or indirect participation in the states' governments through the selection of individuals with aligned goals. This could further destabilise these regions, which is something that is visible in countries where PMC Wagner is present, showcasing both objectives described in this paragraph (Hadman, 2024).

Possible Solutions

Potential clauses may create general guidelines for Member States to follow and apply to their specific use of PMCs, focusing on their limitations, use cases, and accountability concerns for these companies. These clauses may also touch on the mitigation or resolution of the concerns relating to PMCs, or focus on the classification of PMC activities to hold

each of them to a different set of rules, accurate and detailed for their respective task.

To ensure countries establish and follow the correct guidelines, potential clauses have to not only propose on potential ways to mitigate this issue, but also the creation of mechanisms or agencies to ensure that countries operate under the proposed guidelines, and punish the countries that infringed the agreed guidelines.

Final Remarks

Despite PMCs being a topic that has been in discussion for over 3 decades, it is more important than ever to place restrictions and limitations as new technologies open doors to more legal loopholes and moral grey areas for PMCs, allowing them to infringe IHL or HL law. The fact that past proposals for resolutions to this issue have not fully been successful showcases the need to develop new and innovative solutions to solve this issue once and for all.

Relevant Sources

Bell, D. (2025, February 27). Britannica. (E. o. Britannica, Editor) Retrieved September 7, 2025, from private military company: https://www.britannica.com/topic/private-military-firm

Jawad, A. (2024, May 5). Insider Monkey. Retrieved September 7, 2025, from 5 Largest Private Military Contractors In The World: https://www.insidermonkey.com/blog/5-largest-private-military-contractors-in-the-world-1297331/5/

Constellis. (n.d.). Constellis. Retrieved September 7, 2025, from What we do: https://constellis.com/what-we-do/

LaBrie, B. (2025, April 14). Ave Maria School of Law. Retrieved September 7, 2025, from Legal Limbo: The Jurisdictional Maze of Private Military Contractors in Modern Warfare: https://www.avemarialaw.edu/legal-limbo/

Garvie, C., & Genser, J. (2016). Chicago Journal of International Law. Retrieved September 7, 2025, from Contracting for Stability: The Potential Use of Private Military Contractors as a United Nations Rapid-Reaction Force: https://cjil.uchicago.edu/print-archive/contracting-stability-potential-use-private-military-contractors-united-nations-rapid

Pinney, J. (2021, December 14). The Forge. Retrieved September 7, 2025, from A Fistful of Dollars: the Changing Paradigm of the PMSC and Mercenary in the Modern Battlespace: https://theforge.defence.gov.au/article/fistful-dollars-changing-paradigm-pmsc-and-mercenary-modern-battlespace

Serwat, L., & Nsaibia, H. (2025). ACLED. Retrieved September 7, 2025, from The Wagner Group and Africa Corps: https://acleddata.com/armed-group/wagner-group-and-africa-corps

Giustozzi, D. A., Goodenough, C., Winterbotham, E., de Deus Pereira, D. J., & White, D. J. (2025, February). Royal United Services Institute (RUSI). Retrieved September 7, 2025, from Wagner Group and Russia's Presence in Africa and the Middle East: https://www.rusi.org/explore-our-research/projects/wagner-group-and-russias-presence-africa-and-middle-east

Swiss Confederation; International Committee of the Red Cross. (2008). The Montreux Document on Pertinent International Legal Obligations and Good Practices for States Related to Operations of Private Military and Security Companies During Armed Conflict. Report, Swiss Confederation, Federal Department of Foreign Affairs (FDFA), Berne.

Montreuz Document Forum. (2025, August). Montreuz Document Forum. Retrieved September 7, 2025, from PARTICIPATING STATES AND INTERNATIONAL ORGANISATIONS: https://www.montreuxdocument.org/about/participants.html

United Nations. (n.d.). United Nations Human Rights Office of the High Commissioner. Retrieved September 7, 2025, from International Convention against the Recruitment, Use, Financing and Training of Mercenaries: https://www.ohchr.org/en/instruments-mechanisms/instruments/international-convention-against-recruitment-use-financing-and

United Nations General Assembly. (2011). Draft of a possible Convention on Private Military and Security Companies (PMSCs) for consideration and action by the Human Rights Council. Draft Convention, United Nations, Human Rights Council, Geneva.

United Nations General Assembly. (2018, October 30). United Nations. Retrieved September 7, 2025, from Mercenaries, Private Military Contractors Can Destabilize Rule of Law, Expert Tells Third Committee, amid Calls to End Racism, Respect Migrant Rights: https://press.un.org/en/2018/gashc4246.doc.htm

Gilje Østensen, Å. (2011). UN Use of Private Military and Security Companies: Practices and Policies. Policy report, Geneva Centre for the Democratic Control of Armed Forces, Geneva.

Council of the European Union. (2023). The Business of War – Growing risks from Private Military Companies. Research Paper, European Union, General Secretariat, Brussels.

Hadman, M. (2024, October 21). Modern Diplomacy. Retrieved September 7, 2025, from The Shadow Army: Private Military Companies and Their Impact on Modern Defense Policy: https://moderndiplomacy.eu/2024/10/21/the-shadow-army-private-military-companies-and-their-impact-on-modern-defense-policy/.

TOPIC 3: THE ISSUE OF ESTABLISHING A FRAMEWORK FOR THE PEACEFUL USE AND DEMILITARIZATION OF OUTER SPACE

Background Information:

The demilitarization of outer space has been an international worry since the Cold War in the 1950s. But this originates from World War II, where Germany launched the first human made object into space, a V-2 rocket. Germany launched thousands of rockets more throughout the end of the war. And as Germany lost, both the Soviet Union (USSR)

under Joseph Stalin and the United States of America (USA) under Harry S. Truman tried to get their hands on these systems. While Wernher von Braun, one of the key figures for the V-2 program, surrendered to the USA in 1945, the USSR captured several manufacturing plants and the plans of the V-2 rocket (Sheposh, 2025).

By 1955, the USA launched their first space program, named Project Vanguard, which aimed to launch the first American satellite into Earth orbit. Though this project managed to set the Vanguard TV-4, also known as Vanguard I, into orbit on March 17, 1958, (Stevens, 2024), the achievement of the first satellite was superseded by USSR's Sputnik 1, launched into orbit on October 4, 1957. The USSR also passed to be the first country to send a living creature to outer space, as was the case of dog Laika aboard the Sputnik 2, launched on November 3, 1957, (Editors of Encyclopaedia Britannica, 2025).

The launch of Sputnik caused the US to enhance its development of space projects (both scientific and military). The first military satellite program was known as Weapon System 117L (WS 117L), and aimed to take photographs of enemy territory before returning to Earth to retrieve its film. By 1959, WS 117L had ramified into three different programs: the Missile Defence Alarm System (MIDAS), consisted of 12 satellites that would act as an early warning system for Soviet intercontinental ballistic missiles (IBMs) (Editors of Encyclopaedia Britannica, 2017), the Discoverer, consisted of 34 satellites and acting as a military reconnaissance satellite, though the USA tried to hide them as scientific satellites instead (Editors of Encyclopaedia Britannica, 2020), and SAMOS, a frequently misidentified as "Satellite and Missile Observation System" and was another

surveillance satellite (Wikipedia, The Free Encyclopaedia, 2025).

The first successful US spy satellite mission occurred in August 1960 with the Discoverer XIII satellite. The Discoverer program (also called CORONA) launched over 100 missions from 1960 to 1972. The SAMOS program was phased out after a few years, and the MIDAS did not achieve the intended results, so it was eventually phased out as well (Sheposh, 2025).

In 1959, the USA proposed building a lunar base, called Project Horizon, with the capabilities to launch nuclear missiles to Earth-based targets. This was proposed to be fully operational by the start of 1967 (Sheposh, 2025). At around the same time, the Soviets would develop the Fractional Orbital Bombardment System (FOBS), a system based on a low-trajectory launch that would achieve partial Earth orbit, aiming to be able to strike the US without triggering their warning systems (C. Durant & Oliver Fought, 2024).

As the Cold War briefly intensified throughout the early 1960s, international leaders recognized the threats coming from the expansion of the arms race into space. If either side placed nuclear weapons in space, it could destabilize a very fragile peace, and could cause a nuclear war (Sheposh, 2025). With this, the United Nations (UN) led and supervised the creation of the world's first space treaty, known as the Outer Space Treaty. This was open for signature in January 1967, with the USSR, the United Kingdom (UK), and the USA as depository Governments (United Nations, 2025). This meant that these 3 countries would act as keepers of the treaty, managing ratifications and its further management. Still in effect in 2025, the main three points of the treaty designated space bodies as free for use by all humankind, as long as they

were solely for peaceful purposes. No nation could claim sovereignty over a space body, and prohibited the placement of weapons of mass destruction in orbit or a space body (Sheposh, 2025).

Since the treaty did not prohibit conventional weapons in space and had no restrictions for military satellites, the US pursued the militarization of space arguing that it was different from the weaponization of space. Therefore they used this opportunity to develop military satellites for surveillance, navigation, and directing ground-based operations (Sheposh, 2025). This led to the development of technologies such as the Navstar satellites in 1974, of which the Global Positioning System (GPS) is composed (Aerospace). The Soviets also designed their own counterpart, the Global Navigation Satellite System (GLONASS), started in 1982 (Гокорпорация Роскосмос).

In 1983, US President Ronald Reagan proposed the concept of a Strategic Defence Initiative (SDI), aimed to intercept Soviet IBMs before they could reach their targets (Britannica Editors, 2025). This proposal was not well received by the USSR, which saw it as an undermining of the idea of Mutually Assured Destruction (MAD), and that some proposals violated the 1967 Outer Space Treaty (Sheposh, 2025).

In the long run, the USA established its dominance in the field of space technology, further strengthened by the collapse of the Soviet Union. However, both Russia and China would launch ambitious military space programs to contest the USA's control (Sheposh, 2025).

The Persian Gulf War in 1991 was the first to be considered the "first space war", due to the significant strategic and logistical advantage that the GPS and other space systems

provided to navigate, communicate, and guide American weapons. This showed the power that, directly or indirectly, space systems could have on armed conflicts (West, 2024). This only exacerbated countries' wishes to expand on their military satellite and space systems.

In 2007, China destroyed one of its satellites with a ground-to-air missile. Though claiming it was a test, various nations saw this as a deliberate act to show their capabilities to target satellites in orbit. This is technically a violation of the 1967 Outer Space Treaty, which China ratified; but both the US and USSR had performed anti-satellite tests previously, thus causing no punishment on China for this action (Zissis, 2007). With the excuse of destroying a satellite in risk of falling out of orbit, the US conducted a similar test in 2008 (Sheposh, 2025).

Later, in 2013, China tested a missile that reached a height of 36, 000 kilometres over ground floor. Despite China calling it a scientific rocket mission, the Pentagon suspected this missile to be an anti-satellite system, since it was able to reach the orbit where the US deploys most of its sensitive military satellites (Gruss, 2015).

A year later, US intelligence reported that a Russian satellite, named Kosmos 2499, performed unusual, powered manoeuvres. Therefore, this led to speculation that this was an experimental anti-satellite weapon, or an experimental satellite for other purposes (Wikipedia Editors, 2025).

These developments, among others, increased concerns in the US (and other countries), leading to further development of their own space-based military systems. US policy began to shift to more offensive capabilities and active defence of their interests in space (Sheposh, 2025).

In 2018, President Donald Trump proposed creating a sixth branch of the US military known as the US Space Force (USSF), which was established in 2019. It has the mission of conducting operations in outer space such as protecting satellites, conducting military and humanitarian operations, and supporting space launches (United States Space Force, 2025).

In 2020, US President Donald Trump stated his intentions to establish a permanent presence on the moon by 2024, alongside the aim to land on Mars by this year too (United States of America, 2020).

More recently, in 2023, India joined the space exploration by landing the first spacecraft (the Chandrayaan-3) on the South side of the moon. This again raised the question of the possibility to create Lunar bases and use this as a step to go to Mars (Swedish Space Corporation, 2024). This further worried researchers and world leaders, fearing that the 1967 Outer Space Treaty is not enough for our current times.

Currently, at least 12 countries have military units and commands dedicated to protecting or defending their assets in outer space. These are: Australia, Canada, China, France, Germany, India, Italy, Japan, Russia, Spain, the UK, and the US. Space is also a part of various military alliances or cooperation arrangements, such as the North-Atlantic Treaty Organizations, Five Eyes, the European Union, or the AUKUS (Australia, UK, USA). Although the Outer Space Treaty specifically looked to demilitarize the Moon, this process is expanding beyond Earth orbit, therefore requiring further agreements or treaties to ensure the demilitarization of outer space (West, 2024).

Past UN Action:

The UN currently has five different treaties to prevent conflicts in space. The first intervention, mentioned previously in the research paper, is the 1967 Outer Space Treaty, which provided a starting framework, led by the USA and USSR, to demilitarize outer space. This prohibited the ownership of any celestial body, demanded responsibilities regarding debris and damage on Member States, and banned the deployment of weapons of mass destruction on outer space (United Nations, 2025).

In 1968, the Agreement on the Rescue of Astronauts, the Return of Astronauts, and the Return of Objects Launched into Outer Space, also known as the Rescue Agreement, was adopted by the General Assembly and entered into force (United Nations). This agreement elaborates on Article V of the Outer Space Treaty by imposing binding duties on States to provide assistance to space personnel in distress, and to ensure the recovery and return of space objects landing outside their launching territory (United Nations).

Later on in 1972, the Convention on International Liability for Damage Caused by Space Objects, or Liability Convention, was opened for signature and entered into force. This convention, building on Article VII of the 1967 Outer Space Treaty, establishes an international liability regime for damage caused by space objects. This ensures fair and immediate indemnification to victims, and prescribes clear procedures for States to settle these claims (United Nations).

Entering into force in 1976, the Convention on Registration of Objects Launched into Outer Space, named the Registration Convention, builds upon Article VIII of the Outer Space Treaty, and aims to design a Registration mechanism to track all active space objects. This requires

States to formally register space objects they launch, which helps identify responsibility in case of damages or disputes between states due to damage (which was already covered by the 1972 Liability Convention) (United Nations).

The Moon Agreement was the last of these treaties, and was adopted by the General Assembly by 1979, though it only entered into force in July 1984 (United Nations). This agreement establishes the Moon and its natural resources to be common heritage of mankind, and thus prohibits national appropriation, enforces freedom of scientific investigations, and transparency and liability for each Member State when sending equipment or personnel to the moon. It further supports the peaceful use of the Moon, and forbids military bases or tests on or around it, though permitting military personnel and equipment solely for peaceful purposes (United Nations).

Concerns and Challenges:

There are many important concerns and challenges to grapple with when considering how to best approach this issue. One of the main concerns revolves around the 1967 Outer Space Treaty (OST), while the cornerstone of space law the OST is highly outdated. The OST, while prohibiting weapons of mass destruction in orbit does not prohibit conventional weapons or technological systems easily adapted into weaponry, there is much ambiguity in this space treaty which can leave states to exploit and interpret the OST in the ways which best serve their nations interest (robert.wickramatunga, 2024). Further, improper legislation has led to the development of “Dual- use” technologies, launched into space can serve both peaceful and military functions, such as in the case with launch vehicles, Satellites

and Anti-Satellite (ASAT) systems to name a few (Cernev et al., 2024). Regulating these technologies without prohibiting peaceful use becomes a core problem when considering this issue and is one of the driving concerns which cause nations to be more reluctant to pass legislation to de-weaponize space.

Additional complexity is added to the issue when considering prominent legal distinctions between the militarization and weaponization of outer space. Widespread debate about whether militarization is a form of weaponization is what has made it difficult in the past to draw clear lines between what is and is not safely acceptable when considering space use. Many states depend on outer space technology such as military satellites to ensure national security, however it can be argued that common uses of military space technology such as collection of targeting data and missile guidance is already a form of outer space weaponization (United Nations, 2002). Some countries even argue that completely banning military use of space would undermine their right to self-defense (UN Charter, Article 51) (Sirimanne, 2020). While it is feasible to restrict weaponization in the sense of placement and use of weapons in outer space it is hard to draw the line between whether space militarization can be safely legislated.

Finally, when dealing with this issue it is vital to consider technological inequalities which banning all new space militarization could pose on low income countries and developing states, provided the already dominant position which wealthier countries hold over space activity. It can be argued that strict treaties on space militarization could potentially prevent weaker states from ever developing and reaching technological equity with wealthier nations (United

Nations , 2019). Further, preventing low income countries from developing defensive capabilities effective against states with already powerful military network technology in outer space. This therefore, raises the prominent need that any framework passed by the UN address equitable access and capacity-building.

Possible Solutions:

It is vital in working towards improving this issue that we take into consideration the challenges and concerns discussed above when aiming to take further actions. One important consideration when mitigating these concerns can be the development of confidence-building measures, to encourage transparency between and within states in regards to space activity. This could materialize in the form of data sharing and implementing mandatory transparency requirements in regards to space technology (Sirimanne, 2020). Further, turning focus onto the implementations of targeted bans rather than total demilitarization is an approach that would make the safe-gaurding of military development in outer space much more plausible (ESPI, 2022). Focusing on negotiating bans of destructive ASAT weapons for example, expanding on the OST's ban on weapons of mass destruction or setting restriction on dual use technologies become a much more accessible way of mitigating safety risks of outer space militarization and weaponization without inhibiting the development and compromising military defense across nations (United Nations, 2002).

Finally, ensuring equitable access to space resources through creating capacity-building programs through the UN, providing technology sharing and training and funding mechanism so as to allow developing nations to benefit from

peaceful uses of space technology (eg: communications, disaster monitoring, etc.) could help mitigate the increasing power imbalance generated by spatial technologies (United Nations , 2019).

Final Remarks:

Despite multiple Conventions setting boundaries regarding the liability and transparency of space objects, recent developments in technology and the new space race require new frameworks. With the aim to make permanent presence on the Moon and even get to Mars, as figures like Donald Trump have announced, the current frameworks for a peaceful and non-proprietary space fall short, therefore it is key to propose a solution to prevent a militarized space.

Relevant Sources:

Aerospace. (n.d.). Aerospace. Retrieved September 18, 2025, from A BRIEF HISTORY OF GPS: https://aerospace.org/article/brief-history-gps

Britannica Editors. (2025, September 5). Britannica. Retrieved September 18, 2025, from Strategic Defense Initiative: https://www.britannica.com/topic/Strategic-Defense-Initiative

C. Durant, F., & Oliver Fought, S. (2024, January 9). Britannica. Retrieved September 18, 2025, from Strategic missiles: https://www.britannica.com/technology/rocket-and-missile-system/Strategic-missiles#ref57338

Editors of Encyclopaedia Britannica. (2017, September 17). Britannica. (R. Pallardy, Ed.) Retrieved September 18, 2025, from Midas: https://www.britannica.com/technology/Midas-satellite

Editors of Encyclopaedia Britannica. (2020, January 22). Britannica. (R. Pallardy, Ed.) Retrieved September 18, 2025, from Discoverer: https://www.britannica.com/technology/Discoverer

Editors of Encyclopaedia Britannica. (2025, August 1). Britannica. (E. Gregersen, Ed.) Retrieved September 18, 2025, from Sputnik: https://www.britannica.com/technology/Sputnik

Gruss, M. (2015, May 14). SpaceNews. Retrieved September 18, 2025, from Pentagon Says 2013 Chinese Launch May Have Tested Antisatellite Technology: https://spacenews.com/pentagon-says-2013-chinese-launch-may-have-tested-antisatellite-technology/

Sheposh, R. (2025). EBSCO. Retrieved September 18, 2025, from Militarization of Space: https://www.ebsco.com/research-starters/military-history-and-science/militarization-space

Stevens, C. (2024, February 16). NASA. Retrieved September 18, 2025, from NASA Goddard's Beginnings in Project Vanguard: https://www.nasa.gov/history/nasa-goddards-beginnings-in-project-vanguard/

Swedish Space Corporation. (2024, February 12). Swedish Space Corporation. Retrieved September 19, 2025, from SSC and India's historic lunar landing: https://sscspace.com/ssc-and-indias-historic-lunar-landing/

United Nations. (2025). United Nations Office for Outer Space Affairs. Retrieved September 18, 2025, from Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies:

https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/introouterspacetreaty.html

United Nations. (n.d.). United Nations - Peace, dignity and equality on a healthy planet. Retrieved September 19, 2025, from Outer Space: https://www.un.org/en/global-issues/outer-space

United Nations. (n.d.). United Nations Office for Outer Space Affairs. Retrieved September 19, 2025, from Agreement Governing the Activities of States on the Moon and Other Celestial Bodies: https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/intromoon-agreement.html

United Nations. (n.d.). United Nations Office for Outer Space Affairs. Retrieved September 19, 2025, from 34/68. Agreement Governing the Activities of States on the Moon and Other Celestial Bodies: https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/moon-agreement.html

United Nations. (n.d.). United Nations Office for Outer Space Affairs. Retrieved September 19, 2025, from Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Spac: https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/introrescueagreement.html

United Nations. (n.d.). United Nations Office for Outer Space Affairs. Retrieved September 19, 2025, from Convention on International Liability for Damage Caused by Space Objects: https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/introliability-convention.html

United Nations. (n.d.). United Nations Office for Outer Space Affairs. Retrieved September 19, 2025, from Convention on

Registration of Objects Launched into Outer Space: https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/introregistration-convention.html

United States of America. (2020, June 1). U.S. Embassy To The Holy See. Retrieved September 19, 2025, from REMARKS BY PRESIDENT TRUMP AT KENNEDY SPACE CENTER AFTER THE NASA SPACE X CREW DRAGON LAUNCH: https://va.usembassy.gov/remarks-by-president-trump-at-kennedy-space-center-after-the-nasa-space-x-crew-dragon-launch/

United States Space Force. (2025, September 18). United States Space Force. Retrieved September 18, 2025, from News: https://www.spaceforce.mil/News/

West, J. (2024, March 26). Ploughshares. Retrieved September 19, 2025, from We can't ignore the militarization of space: https://ploughshares.ca/we-cant-ignore-the-militarization-of-space/

Wikipedia Editors. (2025, July 19). Wikipedia The Free Encyclopedia. Retrieved September 18, 2025, from Kosmos 2499: https://en.wikipedia.org/wiki/Kosmos_2499

Wikipedia, The Free Encyclopaedia. (2025, August 9). Wikipedia, The Free Encyclopaedia. Retrieved September 18, 2025, from Samos (satellite): https://en.wikipedia.org/wiki/Samos_(satellite)

Zissis, C. (2007, February 22). Council on Foreign Relations. Retrieved September 18, 2025, from China's Anti-Satellite Test: https://www.cfr.org/backgrounder/chinas-anti-satellite-test

Гокорпорация Роскосмос. (n.d.). ПРИКЛАДНОЙ ПОТРЕБИТЕЛЬСКИЙ ЦЕНТР ГЛОНАСС

ИНФОРМАЦИОННО-АНАЛИТИЧЕСКИЙ ЦЕНТР КООРДИНАТНО-ВРЕМЕННОГО И НАВИГАЦИОННОГО ОБЕСПЕЧЕНИЯ Гокорпорация Роскосмос. Retrieved September 18, 2025, from About GLONASS: https://glonass-iac.ru/en/about_glonass/

Cernev, T., Bland, J., Zilgalvis, G., Kaleagasi, B., de Zwart, M., Tzachor, A., Richards, C. E., Chesley, B., McClintock, B., & Agachi, A. (2024). Assessing benefits and risks between the space economies and the sustainable development goals. *Frontiers in Space Technologies, 5*(5). https://doi.org/10.3389/frspt.2024.1375830

ESPI. (2022). *Space environment capacity policy, regulatory and diplomatic perspectives on threshold-based models for space safety & sustainability: Full report prepared for*. Retrieved September 19, 2025, from https://www.espi.or.at/wp-content/uploads/2022/06/ESPI-Report-82-Space-Environment-Capacity-Full-Report.pdf

Wickramatunga, R. (2024). *Outer space treaty*. UNOOSA. Retrieved from https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/outerspacetreaty.html

Sirimanne, S. N. (2020). *Space and the profusion of data: The new development frontier?* UNCTAD. Retrieved September 19, 2025, from https://unctad.org/news/space-and-profusion-data-new-development-frontier??

United Nations. (2002). *United Nations treaties and principles on outer space*. Retrieved from https://www.unoosa.org/pdf/publications/STSPACE11E.pdf

United Nations. (2019). *Outer space activities must benefit all states, no matter their development levels, delegates tell Fourth Committee as it begins general debate*. Retrieved September 19, 2025, from https://press.un.org/en/2019/gaspd703.doc.htm