

Committee: International Security and Disarmament Committee (GA1)

Topic: Discussing the reinvigoration of Iran's space program

Student Officer: John Glarentzos

Position: Co-Chair

Personal Introduction

Dear delegates of the GA1 committee,

My name is John Glarentzos, I am 15 years old, and I am truly honoured and excited to serve as your co-chair in this year's GA1 committee.

I am currently a 10th grader in Platon School, and it was about a year and a half ago when I was introduced to the MUN world by one of my professors there. Initially hesitant to join, I started this journey which in the end, proved to be invaluable and I hope things will stay that way. MUN has taught me valuable skills which will be useful to me in the future, and I cannot stress enough how beneficial it has been to my life, even with less than two years since I first heard the concept of it. In each and every conference I kept learning things about global issues and country policies, both as a delegate and now as a student officer, which are topics that truly matter if we want our generation to not repeat the mistake of our predecessors.

As for my personal interests, I truly enjoy spending hours listening to music and watching TV shows and movies in my free time, as these activities help me decompress and forget everything negative that's happening around me, allowing me to relax. I'm also deeply interested in astronomy and space exploration of any kind, which by the way is why I liked this topic so much and I hope you will too. DIY projects finally do intrigue me as well, ranging from 3D printing models to spending hours watching tutorials about how I can improve my work, and I can confidently say that I am obsessed with these projects.



I am truly looking forward to meeting each and every one of you in October to have a fruitful debate and come up with well-considered resolutions. Provided you have any questions on the topic, I encourage you to contact me via e-mail.

Yours truly,

John

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Topic Introduction

Space has been characterized as the final frontier of exploration for ages. Humanity has been looking up the stars and dreaming about seeing what was out there since its appearance as a species on this planet. In the past century, technology has advanced to such a degree that renders us capable of exploring space through multiple means. However, a certain degree of coordination is needed for such exploration to be possible.

Therefore, many countries have launched national space programs, or in other words, agencies which are responsible for the coordination of their space efforts and activities. Space programs usually promote science development, economic prosperity and from the early stages of spaceflight, also ensure national security. As such, it is obvious that more often than not, the interests of multiple parties collide, and therefore it was deemed necessary for international security to be extended beyond the atmosphere. Both the United Nations as an organization and member states individually have made efforts to stick to that goal. However, throughout history there have been numerous controversies regarding the issue, with one of them being Iran's space program.

Iran's space program consists of two agencies, with the main one being the Iranian Space Agency (ISA). This agency is run by the state, and it has set the aforementioned standard goals almost every nation sets in space. However, there is a second space agency in Iran, the Islamic Revolutionary Armed Corps (IRGC), which essentially is a body of Iran's armed forces. This space organ is run by said armed forces and mainly develops missiles and satellites for Iran. Considering the fact that



Iran effectively has a space presence run by the military, “peaceful” intentions set forth are highly contested and many parties have raised concerns about the threat such an agency poses to international security in space. In the shadow of a potential space conflict in the future, it is necessary to take action immediately, not only to resolve the underlying threat in Iran, but to prevent the occurrence of such conflict.

Definition of key terms

Inter-Continental Ballistic Missile (ICBM)

“Any supersonic missile that has a range of at least 3500 nautical miles (6,500 km) and follows a ballistic trajectory after a powered, guided launching”.¹ Intercontinental ballistic missiles are very powerful and if handled appropriately, they can cause severe damage across the world.

Satellite

“A manufactured object or vehicle intended to orbit the earth, the moon, or another celestial body”.² Satellites can be used for communication, science or even military purposes and they are the main medium with which all countries gain access to space.

Rocket

“A vehicle used for travelling or carrying things into space, which is shaped like a big tube”.³ Although a rocket can sometimes be used as a missile, it is usually used for peaceful purposes and should not carry weapons.

Orbital-Class Rocket

Orbital class rockets are rockets that are powerful enough to carry a certain payload to space and make it reach a speed that will force said payload to remain in orbit around the planet.⁴

¹ “Intercontinental Ballistic Missile Definition & Meaning.” *Dictionary.com*, Dictionary.com, www.dictionary.com/browse/intercontinental-ballistic-missile.

² “Satellite Definition & Meaning.” *Merriam-Webster*, Merriam-Webster, www.merriam-webster.com/dictionary/satellite.

³ “Rocket.” *LDOCE*, www.ldoceonline.com/dictionary/rocket.

⁴ Greshko, Michael. “Rockets and Rocket Launches, Explained.” *Science*, National Geographic, 4 May 2021, www.nationalgeographic.com/science/article/rockets-and-rocket-launches-explained.



Missile

“A flying weapon that has its own engine so that it can travel a long distance before exploding at the place that it has been aimed at”.⁵ It is important to mention that missiles, while engineering-wise are rockets, do not serve peaceful purposes and they usually carry weapons. This is an important differentiation in understanding whether a space program has peaceful intentions or not.

Hypersonic Weapons

Hypersonic Weapons are missiles which can travel with speeds five times the speed of sound and more. They are especially dangerous compared to normal or in other words ballistic missiles, seeing as they are highly maneuverable and can easily change their trajectory mid-flight, allowing them to strike targets more easily.⁶

Weapon of Mass Destruction (WMD)

A weapon of mass destruction is a nuclear, radiological, chemical, biological, or other device that is intended to harm a large number of people.⁷ For example, a weapon of mass destruction can be a nuclear bomb or a weaponized virus.

Background Information

The Iranian Space Agency

Iran’s space program is mainly run by the Iranian Space Agency (ISA), a state-run organization which is state funded and publicly recognized as the country’s main source of developing scientifically and socially through space activities. As such, its operations have mainly been peaceful. With the reinvigoration of Iran’s space program, it is important to examine the roots of all factors which open up a new chapter for what space exploration means, on a national and international level.

⁵ “Missile.” *LDOCE*, www.ldoceonline.com/dictionary/missile.

⁶ Seldin, Jeff. “What Are Hypersonic Weapons and Who Has Them?” VOA, What Are Hypersonic Weapons and Who Has Them?, 23 Mar. 2022, <http://www.voanews.com/a/what-are-hypersonic-weapons-and-who-has-them-/6492459.html>.

⁷ “Weapons of Mass Destruction.” *Weapons of Mass Destruction | Homeland Security*, www.dhs.gov/topics/weapons-mass-destruction.



Historical Background

Iran as a nation has set out to pursue space activities from the earliest days of space exploration. It was one of the first nations that joined the UN body for space affairs back in 1957, the Committee for International Cooperation in Space⁸. It also is one of the founding members of the Committee on Peaceful Uses of Outer Space, which succeeded the aforementioned committee.

However, Iran never actively pursued launching to space until 1998⁹, when as a nation it signed deals with China and the Russian Federation with the aim of collaborating in the creation of satellites with peaceful purposes, such as communication and data gathering. In 1999¹⁰, Iran also publicly announced that it would start its own rocket program to launch the previously mentioned satellites into space, which raised immediate concerns that such rocket development would assist the ballistic missile program of Iran, seeing as the ministry of defense was involved. Nevertheless, such a project obviously required tons of organization and planning before launching a satellite.

For this purpose, the Iranian Space Agency was created in 2003¹¹, and after meticulous planning and many years of preparation, Iran launched its first satellite, the Omid, aboard its own orbital class rocket, the Safir, in 2009¹². Although Iran had previously launched other satellites into orbit through foreign launch vehicles, such as the Sina-1 mission in 2005¹³, managing to put a domestic satellite using a domestic launcher was a huge milestone and effectively rendered Iran an orbit-capable nation, a title which not many possess.

Since then, the ISA has launched another three satellites to orbit, the Rasad, the Navid and the Fajr¹⁴, which were all mandated to conduct research, collect data and carry out other peaceful operations. It has also started to develop the Simorgh

⁸ Krzyzaniak, John. "Explainer: Iran's Space Program." *The Iran Primer*, 3 June 2022, iranprimer.usip.org/blog/2022/jun/03/explainer-irans-space-program.

⁹ Krzyzaniak, John. "Explainer: Iran's Space Program." *The Iran Primer*, 3 June 2022, iranprimer.usip.org/blog/2022/jun/03/explainer-irans-space-program.

¹⁰ Krzyzaniak, John. "Explainer: Iran's Space Program." *The Iran Primer*, 3 June 2022, iranprimer.usip.org/blog/2022/jun/03/explainer-irans-space-program.

¹¹ "Iran's Space Program and the Wall between 'Peaceful Purposes.'" *Iran's Space Program and the Wall Between "Peaceful Purposes"* | Center for Strategic and International Studies, 2 June 2022, www.csis.org/blogs/technology-policy-blog/irans-space-program-and-wall-between-peaceful-purposes.

¹² Elleman, Michael. "Iran's Ballistic Missile Program." *The Iran Primer*, 19 Feb. 2021, iranprimer.usip.org/resource/irans-ballistic-missile-program.

¹³ Krzyzaniak, John. "Explainer: Iran's Space Program." *The Iran Primer*, 3 June 2022, iranprimer.usip.org/blog/2022/jun/03/explainer-irans-space-program.

¹⁴ Krzyzaniak, John. "Explainer: Iran's Space Program." *The Iran Primer*, 3 June 2022, iranprimer.usip.org/blog/2022/jun/03/explainer-irans-space-program.



since the early 2010s¹⁵, a more capable launch vehicle which would theoretically improve Iran's operations and developments in space. However, this rocket has yet to reach orbit, with several failed attempts. In recent years, certain advancements have also been made to the Safir.

The Iran Space Agency's goals and contribution to the nation

The ISA from the beginning was intended to declare Iran's space program purely civilian. The operations of the ISA are to a large extent peaceful and not threatening to disarmament and international security. Although, some technology used in these satellites can unavoidably be used in case of a military conflict. The ISA's long-term goal is to establish a permanent Iranian presence beyond the Earth's atmosphere using increasingly advanced satellites. Sending an astronaut to space and pursuing space exploration beyond Earth's orbit are also some goals the ISA has been pursuing for a while.

Ultimately, the ISA has allowed for great scientific discoveries to be made in space, which could potentially help facilitate everyday life in a number of ways. In addition, a space program allows countries to develop new and more advanced technologies in a variety of sectors, such as engineering, software technology and others, and Iran is no exception. Although the technological advancements of the ISA are admittedly debatable, seeing as its rocket technology can also be used for missiles, the technological benefits and dangers should be considered. Finally, space programs globally serve as a source of inspiration and hope for the future. It wouldn't be an exaggeration to state that although highly disputable, the Iranian space program has great potential in contributing to the development of Iran's economic strength. It could also allow Iran to develop its foreign relations with the world, as long as it ensures that its space program doesn't threaten international security and stability. Such a condition however hasn't been met yet due to Iran's second space agency which follows a military course of action. This secondary agency is the reason why Iran's space program is highly contested seeing as its activities not only threaten international peace and security in space for reasons we will analyse below, but also alienate Iran from the

¹⁵ Elleman, Michael. "Iran's Ballistic Missile Program." *The Iran Primer*, 19 Feb. 2021, iranprimer.usip.org/resource/irans-ballistic-missile-program.



international efforts made to prevent an armed conflict in space, thus damaging the foreign relations of the nation

The Islamic Revolutionary Guard Corps (IRGS) and their space efforts

The IRGC are the armed forces and military of Iran, responsible for the safeguarding of Iran's security and sovereignty. Established in 1979 by Rullohah Khomeini¹⁶, they originally served the purpose of safeguarding the newly formed republic of Iran from Iran's official army, which was leaning towards the overthrown Shah or in other words ruler of Iran. Doing so would ensure that the newly formed republic wouldn't face counter attacks from the overthrown Shah. However, this organization gained more popularity and influence over the years, and they eventually became the main military body of Iran, funded by the government. They currently have an army, navy, air force and even an intelligence wing, so it is obvious that apart from powerful, Iran's armed forces are also very well organized, and funded.¹⁷

The IRGS's course of action

The IRGC is confirmed to also have a space body which effectively co-exists with the ISA. However, unlike the ISA, the IRGC space body is much more militarily oriented when it comes to their activities. The IRGC space division is believed to have been created around the mid 2000s by Hassan Tehrani Moghaddam, which is believed by many to be the creator of Iran's missile program.¹⁸ Its original purpose was to develop solid-fuel rockets, a kind of rocket that can easily be armed and used as a deadly long-range missile. In reality, the whole program of solid rockets was used as a cover up for future advancements in missile technology. As such, its operations were initially kept secret from the general public, seeing as its existence was revealed several years later.

¹⁶ "Islamic Revolutionary Guard Corps." *Encyclopædia Britannica*, Encyclopædia Britannica, Inc., www.britannica.com/topic/Islamic-Revolutionary-Guard-Corps.

¹⁷ "Islamic Revolutionary Guard Corps." *Encyclopædia Britannica*, Encyclopædia Britannica, Inc., www.britannica.com/topic/Islamic-Revolutionary-Guard-Corps.

¹⁸ Krzyzaniak, John. "Explainer: Iran's Space Program." *The Iran Primer*, 3 June 2022, iranprimer.usip.org/blog/2022/jun/03/explainer-irans-space-program.



Over the past decade, the IRGC has crafted a number of ICBMs which can be prepared and used rapidly, should circumstances require it. In the past years though, they have expanded their field of activity, seeing as they started working on military satellites too. The first of these, Noor-1, was launched in 2020 and it was basically a satellite used for intelligence, capable of transferring data, and taking pictures from orbit¹⁹. This year, the IRGC launched its sibling satellite, Noor-2, which serves the same purpose. It is important to note that these satellites were launched by an IRGC launcher, which was widely dependent on ballistic missile technology to reach orbit.²⁰



Figure 1: Iranian Broadcast Feed from the launch of Noor-2 to orbit.²¹

The connection between the two agencies

The two agencies, the ISA and the IRGC Aerospace Force, are to a large extent interdependent, seeing as they both constitute major organizations of the same nation. In the beginning of its operations, the IRGC Aerospace force mostly operated without the ISA, seeing as it was a secretive organization which acted as a front for the development of Iran's ballistic missiles. However, as the years passed and the IRGC Aerospace Force was publicly revealed, the connection between the two was strengthened and currently, they have reached a certain level of co-operation.

¹⁹ Krzyzaniak, John. "Explainer: Iran's Space Program." *The Iran Primer*, 3 June 2022, iranprimer.usip.org/blog/2022/jun/03/explainer-irans-space-program.

²⁰ Person. "Iran Puts Second Military Satellite into Orbit - Tasnim." *Reuters*, Thomson Reuters, 8 Mar. 2022, www.reuters.com/world/middle-east/irans-revolutionary-guards-put-noor-2-satellite-orbit-tasnim-2022-03-08/.

²¹ Graham, William. "Iran Carries out Military Launch with Qased Rocket and Noor-2 Satellite." *NASASpaceFlight.com*, 8 Mar. 2022, www.nasaspaceflight.com/2022/03/iran-military-qased-noor-2/.



Specifically, during the latest years of its operation, the IRGC Aerospace force has been using data from the ISA's satellite rocket technology to practically make missiles. This was made possible because of the similarity in the designs, so practically, every development made by the ISA in the Safir rocket for example, benefited the IRGC's work as well. This was amplified when the IRGC decided to start working on military satellites as well. Unavoidably, some of the technology used by the ISA would be profoundly useful to the IRGC program, meaning that Iran ultimately could use the space program to construct multiple missiles and weaponized satellites with great speed and efficiency, due to the existence of functional, tested technology²².



Figure 2: Shabab-3, an Iranian ballistic missile launching from an Iranian facility.²³

Political motivation in terms of the Iranian space program

The dissolution of Iran's space program

Politically speaking, Iran's space program was generally supported by most Iranian leaders and presidents, seeing as it not only allowed for great advancements in technology and science, but it was also a great undercover military resource for the country. However, given that Iran refused to listen to the warnings and concerns of the global stage, its foreign relations with the countries such as the US and its allies suffered greatly.

²² Krzyzaniak, John. "Explainer: Iran's Space Program." *The Iran Primer*, 3 June 2022, iranprimer.usip.org/blog/2022/jun/03/explainer-irans-space-program.

²³ "Shahab-3." *Wikipedia*, Wikimedia Foundation, 4 July 2022, en.wikipedia.org/wiki/Shahab-3.

President Rouhani, who was elected in 2013, wanted to help better Iranian foreign relations. He thought that by improving Iran's foreign relations he would be able to ameliorate the lives of the Iranian people, which was his ultimate goal.²⁴ Therefore, one of his first actions in office was terminating the country's controversial space program. In 2015²⁵, having witnessed the negative impact of the ISA's budget on Iran's economy, President Rouhani shut down its budget and decommissioned most of its institutions. Some final launches of already built rockets took place, with the aim of combatting strong criticism from the Iranian media at the time, but the Iranian Space program would remain mostly inactive.

The reinvigoration of Iran's space program

When President Rouhani's term ended in 2021, Ebrahim Raisi was elected as Iran's next president, and unlike his predecessor, he firmly believed that the space program was invaluable to the nation, and since his policy on the matter was firm, he naturally reinvigorated the program and even nowadays he fully supports it.²⁶

He expressed his dedication to fully supporting the space program in launching new satellites, creating new launch vehicles, and even building new launch sites. However, as expected, such decisions re-ignited the controversy on whether Iran's space program is dangerous or not, seeing as all the developments previously mentioned could directly strengthen the military dimension of Iran's space program as well. In fact, with the revival of its space program as a whole, Iran has made various advancements in rocket and in parallel missile technology, which could allow it to develop greatly improved ICBM's capable of inducing multiple casualties. It is evident consequently that the re-invigoration of Iran's program currently benefits to a great extent the military power of Iran and not only enhances its national security, but also extends its weapon arsenal that could be used in numerous conflicts. As such, Iran's space program may pose a threat to international peace and security, a threat that could potentially extend to space territory despite international agreements and treaties which define space as a peaceful area where no armed conflict should occur.

The reinvigoration of Iran's space program on a global scale

The reinvigoration of Iran's space program, apart from benefiting Iran in a variety of ways we mentioned above, is also a much disputed topic in the international scene.

²⁴ Britannica, The Editors of Encyclopaedia. "Hassan Rouhani". Encyclopedia Britannica, 15 Nov. 2021, <https://www.britannica.com/biography/Hassan-Rouhani>.

²⁵ Al Salami, Jassem. "Iran's Space Program-Still Cancelled." *Medium*, War Is Boring, 8 Feb. 2015, medium.com/war-is-boring/irans-space-program-still-cancelled-8fe440f6db5b.

²⁶ Iranian President Raisi's Renewed Emphasis on Space Is Likely to Create New Tensions." *War on the Rocks*, 20 Dec. 2021, warontherocks.com/2021/12/iranian-president-raisis-renewed-emphasis-on-space-is-likely-to-create-new-tensions/.



This is because the operations of said program are obviously militarized to some extent as we mentioned above, and the development and utilization of more advanced technologies by the IRGC in the space sector ultimately threatens international security and disarmament, which is the mandate of this committee. Another aspect that further deteriorates the situation is the fact that Iran's military activities in space are not forbidden by treaties such as the Outer Space Treaty signed in 1967²⁷, which constitute the main legislative documents for space activities, seeing as the advanced technology utilized did not exist at the time these treaties were signed and ratified. This complexes the challenge of iterating solutions.

As such, many nations, including the United States of America and its allies, have strongly condemned the reinvigoration of Iran's Space program. However, the stance neighbouring nations have adopted is varies largely. Although Israel, a rival of Iran since the initiation of their war in 1985, strongly emphasizes the dangers the existence of such a program entails, other nations in the region have kept a quieter and more neutral stance, seeing as their space programs are more advanced and Iran's technology does not seem to compare with their defensive technology. This is a factor that could rapidly change in the coming years with Iran's space program developing more and more advanced missiles. Ultimately, this would create further competition between national space agencies in the region, to an extent where more programs might get militarized for purposes of national security and even domination in the area.

Major countries and organizations involved

Iran

Iran has denied any claims that the ISA is related to the IRGC and any military operations, while strongly supporting that the space program does not constitute a threat to international security, despite space activity showing otherwise. Furthermore, Iran has stated that the reinvigoration of its space program will purely promote economic, technological, and scientific advancements. Iran claims that there is no relationship between the technology used in ballistic missiles and the technology used

²⁷ Fact Sheets & Briefs." *The Outer Space Treaty at a Glance* | Arms Control Association, www.armscontrol.org/factsheets/outerspace.



for achieving its goals in space. Nevertheless, it has been proven that Iran has been using space technologies for the advancement of its ballistic missile program²⁸. The statements therefore made by officials, claiming that Iran's space program does not threaten international security, are false and deceptive to a considerable extent.²⁹

Democratic People's Republic of Korea (DPRK)

The DPRK has been a long-lasting ally of Iran in a great variety of fields. Their foreign relations are particularly strong, to the point where multiple partnerships between these two countries are being formed. These partnerships extend to missile development. In the beginning of its relations with Iran, North Korea was simply trading missile components, which is what helped the nation establish a domestic launch capacity. However, it is currently speculated that their missiles are co-operatively designed, seeing as there are a lot of similarities in their respective missiles. It is evident that such an alliance poses a risk to international security, seeing as it is based on developing weaponized space vehicles which could provoke an armed conflict in space, a conflict which could result in disastrous consequences.

Russia

The Russian Federation is another noteworthy ally of Iran, especially in missile development. Furthermore, Russia is known to have been assisting the development of Iran's missile program through component and weapon trading, including designs and operational procedures necessary to utilize the aforementioned, which allowed Iran to gain the ability to launch missiles in a pretty short timeframe compared to other nations. Nowadays, with Iran having developed a truly noteworthy missile arsenal, the two countries have formed a strong arms alliance, with both Russia and Iran supplying each other "necessary" weapons, while Russia occasionally handles the economic burden of modernizing Iran's weapons systems as well. Even today, with the ongoing

²⁸ Krzyzaniak, John. "Explainer: Iran's Space Program." *The Iran Primer*, 3 June 2022, iranprimer.usip.org/blog/2022/jun/03/explainer-irans-space-program

²⁹ "Iran Says It Launched Three 'Research' Satellites into Space." *CBS News Online*, CBS News, 30 Dec. 2021, www.cbsnews.com/news/iran-says-it-launched-three-research-satellites-into-space/.



war in Ukraine, Russia is to some extent using weapons from Iran, while the other is using Russian data on missile use³⁰.

United States of America (US)

The United States of America, amongst many other nations which are concerned with Iran's developments in missiles, have openly condemned its entire space program, on the grounds that it solely has military purposes. The US is of the opinion that it serves as a cover for the development of missiles and not the advancement of science and technology³¹, as Iran claims. Furthermore, the US has declared the IRGC as a Foreign Terrorist Organization, and therefore have integrated multiple measures against Iran, including sanctions. Both parties have been in conflict for prolonged periods of time and while there have been some attempts for dialogue, a middle ground has not been found.

It is worth noting that the US has always "advocated" for the peaceful use of outer space. In the earliest days of space exploration, the US was prepared to take any measure necessary to achieve this goal. However, although it has been publicly attacking Iran for its militarized space program, it has developed weapons itself for space use in case of a space conflict. Its military development for space operations has been rising with record rates these last five years. In 2019, the Space Force was created which was truly a military body meant for outer space operations, much like the IRGC's Aerospace Force. However, the US keeps condemning Iran and other countries which have space programs related to the military.³²

³⁰ Gain, Mohammed Ahmed, and Przemysław Osiewicz. "Iran Is Learning from Russia's Use of Missiles in Ukraine." *Middle East Institute*, 22 June 2022, www.mei.edu/publications/iran-learning-russias-use-missiles-ukraine.

³¹ AsiaNews.it. "New US Sanctions Target Iran's Space Program." *IRAN - UNITED STATES*, 4 Sept. 2019, www.asianews.it/news-en/New-US-sanctions-target-Iran%E2%80%99s-space-program-47906.html.

³² Bender, Bryan. "What the Space Force Is, and Isn't." *POLITICO*, 3 Feb. 2021, www.politico.com/news/2021/02/03/space-force-explained-465799.



The United Nations Organization for Outer Space Affairs (UNOOSA)

The UNOOSA is a special UN body responsible for maintaining international cooperation, peace, and stability in outer space. In more detail, it can assist nations in creating legislation which will ensure that space exploration does not have military incentives and only serves the economic, social, and scientific assets of each member state. Its mandate also includes the regulation of outer space with the aim of identifying any use of space that is not peaceful, as defined by treaties such as the Outer Space Treaty. Finally, the UNOOSA can help less economically developed countries create a permanent space presence by contributing to the integration of space capabilities in national development programs. Currently, Iran's situation is being closely monitored by the UNOOSA. In the case that Iran does conduct hostile activities via its space program, sanctions will ensue.

United Nation's Office for Disarmament Affairs (UNODA)

The UNODA is a special UN body with the responsibility of achieving global disarmament under international supervision, a goal which is difficult yet not impossible to achieve. For the manifestation of the said goal, its current mandate is to ensure global security and stability, through eliminating all WMDs or weapons in general, and de-escalating current disputes in order to avoid armed conflicts. Moreover, the UNODA collaborates closely with the UN General Assembly; both utilize resolutions to take action and operate. Finally, it is responsible for organizing the annual Conference on Disarmament, in which 10 urgent topics are discussed each year such as the prevention of an arms race in outer space. In this conference and inside the UN body in general, the issue of Iran's space program has been discussed multiple times, and while there have been some proposals to counter such threats, concrete action has yet to be taken.

North Atlantic Treaty Organization (NATO)

The North Atlantic Treaty Organization is a multinational alliance which aims to promote the democratic values of its members and ensure their security and integrity.



It was formed in 1949 and since then it has acquired 30 members³³. NATO doesn't have its own army but utilizes armed forces of all its members, and it is dedicated to taking action in case of a potential armed conflict or crisis which threatens the sovereignty of one of its members. It is also worth mentioning that NATO is frequently cooperating with the UN in order to consider its steps and course of action. Since 2019, space has taken a part of NATO's areas of operation, seeing as technology has evolved to the point where an armed conflict in space threatening NATO's goals is entirely possible³⁴. Since then, it has established a space policy for all of its members, which is why most of them consult NATO before conducting any activities in this domain. Its main method of tracking and operating space is through satellites which could derive from national space agencies or even trusted private space institutions. However, it is worth noting that with the US being the dominant force in said multilateral organization, some matters are treated in way that reflects its policy, with Iran's space program being amongst these issues.

Timeline of events

<u>4 April 1949</u>	The North Atlantic Treaty Organization is established.
<u>1957</u>	Iran joins 17 nations into creating an ad hoc committee for international cooperation in space in the United Nations.
<u>4 October 1957</u>	Sputnik-1 becomes the first satellite to reach orbit.
<u>12 December 1959</u>	The General Assembly establishes the Committee on the Peaceful Uses of Outer Space, with Iran as a founding member.

³³ NATO | OTAN." *What Is NATO?*, www.nato.int/nato-welcome/.

³⁴ "NATO's Approach to Space." *NATO*, 19 Nov. 2021, www.nato.int/cps/en/natohq/topics_175419.html.



<u>27 January 1967</u>	Iran signs the Outer Space treaty, which by many is characterized as the core of space law globally.
<u>20 July 1969</u>	Americans Neil Armstrong and Buzz Aldrin step foot on the moon, ending thus a decade long space race between the US and the Soviet Union, that if continued, could have led to a space conflict.
<u>10 November 1978</u>	Resolution A/RES/33/16 on the topic of international co-operation in the peaceful use of outer space was signed.
<u>1998</u>	Iran signs a deal with Russia and China to collaborate in building satellites.
<u>1999</u>	Iran announces its intentions to start making its own satellite launchers.
<u>4 January 1999</u>	Resolution A/RES/53/76 on the prevention of an arms race in outer space.
<u>28 October 2005</u>	The first Iranian Satellite, Sina 1, is placed into orbit by a Russian launcher.
<u>2 February 2009</u>	Omid, the first Iranian satellite to be launched on a domestic launcher, reaches orbit.
<u>3 August 2013</u>	President Rouhani is elected in Iran.
<u>13 December 2013</u>	Resolution A/RES/68/74 on the recommendations on national legislation relevant to the peaceful exploration and use of outer space was signed.



<u>9 January 2015</u>	President Rouhani officially announces the dissolvment of the Iranian space program.
<u>22 April 2020</u>	IRGC's first military satellite, the Noor 1, is launched.
<u>3 August 2021</u>	President Raisi is elected, and he reinvigorates the Iranian space program, raising global concerns and reminding of the looming danger of a space war.
<u>8 March 2022</u>	Iran launched Noor 2, its second military satellite.

Previous attempts to solve the issue

Multi-Lateral discussions between nations on the proliferation of nuclear weapons in space

One of the first attempts made by nations to maintain peace and stability have been multiple multi-lateral discussions in an attempt to limit the use of rocket technology in missile advancement and weapon developments. Said discussions are organized either by the UN or other organizations which can be independent to the UN or not. However, while these discussions set the grounds for cooperation and integration of effective solutions, they haven't been very effective due to a variety of reasons, with the most important ones being the amount of different national policies on the topic and the conflicting national interests.

However, recently things have started to look better. A notable example of such discussions is the Conference on Disarmament (CD) which takes place annually and is run by the UN. Member states discuss an agenda which revolves around ten specific topics relevant to disarmament that are slightly altered each year. One of these central topics is preventing an arms race in outer space. On January 26th, during the 2016 annual conference on disarmament, the situation in Iran was addressed as part of this topic. In this conference, many nations condemned Iran and North Korea's military



actions in space and there were extensive discussions about the need to create an efficient method to regulate space activities globally, as well as modernize existing space treaties.³⁵

The registration of all launched satellites in the United Nations

By default, each member state is obliged to alert the United Nations whenever it puts a satellite or an object in orbit. This way, the UN can track all objects in the sky and regulate any potential military and non-peaceful operations conducted by nations. On the one hand, it is an excellent solution seeing as it allows for an objective regulation of all objects in outer space. On the other hand, it is not easily applicable. That is because nations could perhaps launch military satellites, without informing the UN and eventually no-one ever realizing that these satellites orbit the Earth until a severe conflict occurs. In some cases a satellite could be registered as civilian, but also have a military purpose that hasn't been mentioned to the UN. Therefore, the UN needs to find ways of enhancing the application of this measure strictly in all member states so as to avoid possible violations as mentioned above. The registration of satellites must be re-considered and closely monitored, seeing as the aforementioned loophole renders this solution ineffective until further action from the UN and its organs.

Relevant UN Resolutions, Events, Treaties and Legislation

Resolution A/RES/53/76 on the Prevention of an arms race in outer space

This resolution signed in 1998 by the General Assembly³⁶ recognizes the looming danger of an armed conflict in space. While it mostly proposes some general guidelines, it presents some useful ideas as well. For example, it recognizes the weakness the legal regime has over space, seeing as it is not currently elaborate and effective enough to prevent an armed conflict in space. Therefore, it reinforces the need

³⁵ Canada, Global Affairs. "Government of Canada." GAC, Government of Canada, 22 Feb. 2019, www.international.gc.ca/world-monde/international_relations-internationales/un-onu/statements-declarations/2016-01-26-disarmament-desarmement.aspx?lang=eng.

³⁶ "Prevention of an Arms Race in Outer Space." *Esubscription to United Nations Documents*, <https://undocs.org/en/A/RES/53/76>.



to reconsider the existing legislation at the time. It also encourages member states to commit themselves in achieving successful and effective multilateral discussions by giving precise and clear information about their space activity in the CD. As a result, it would make way for the creation of informed and more applicable and pragmatic solutions.³⁷ It is however, solely encouraging, and cannot tie states down to their accountability in regard to its clauses.

Resolution A/RES/33/16 with the topic of international co-operation in the peaceful uses of outer space

This resolution, while admittedly old having been signed in 1978³⁸, still contains some clauses that could create useful solutions even today. First of all, it stresses the need for all nations to sign and ratify all treaties regarding peaceful operations in outer space, which are necessary even today. An increasing number of nations are gaining access to space, access they didn't imagine was possible for them, which is why they haven't ratified some treaties and international agreements. Another equally important measure mentioned is that nations should alert the UN in case they have utilized a weapon in outer space, and it has become dangerous, in an attempt to prevent further incidents and in turn casualties both in space and on Earth.³⁹ Still, this resolution is merely suggestive and cannot be applied unless its clauses are added to existing treaties, or come together to form a new, modern treaty which tackles security threats in space.

Resolution A/RES/68/74 on the Recommendations on national legislation relevant to the peaceful exploration and use of outer space

This resolution, as its title suggests, presents a set of regulatory guidelines that each nation should integrate into their legal system, such as only the authorization of

³⁷ "Prevention of an Arms Race in Outer Space :." *United Nations*, United Nations, digitallibrary.un.org/record/265330?ln=en.

³⁸ Migration. "United Nations Office for Outer Space Affairs." *RES 33/16*, https://www.unoosa.org/oosa/oosadoc/data/resolutions/1978/general_assembly_33rd_session/res_33_16.html.

³⁹ "International Co-Operation in the Peaceful Uses of Outer Space :." *United Nations*, United Nations, digitallibrary.un.org/record/637294?ln=en.



space activities, which follow UN guidelines and rules, by a “national authority” that follows the same standards. The continued monitoring of private space agencies is also mentioned, seeing as their increasing power and influence could also potentially gain a threatening military aspect in the future. It aims to ensure that international space activities are controlled by member states’ respective governments in accordance with international law. This way, any national space activities that do not follow protocol and violate the standards on peaceful uses of space set by UN treaties and agreements can be eliminated. It was signed by the general assembly in 2013, which shows the progress of action against increasing space programs.⁴⁰ This however is a resolution, meaning that it is solely suggestive to member-states, and therefore, no nation bears any legal obligation to its clauses. Even though it does provide promising recommendations, it does not ensure that it will be applied.

The Outer Space Treaty

The Outer Space Treaty is perhaps one of the oldest UN documents related to the peaceful use of space exploration, having been signed in 1967. This treaty is essentially the basic list of laws that apply in space to avoid an armed space conflict and it covers many different aspects of space exploration. However, it is considered to be outdated by many, seeing as there are a lot of threats to international security in space nowadays which are not covered by this treaty. For example, the outer space treaty bans WMDs in orbit and military activity on celestial bodies, but it does not ban ICBMs or spy/military satellites which nowadays, are a main threat. When it comes to the reinvigoration of Iran’s space program, this is particularly alarming and threatens international security and disarmament in space. Its obsolete provisions do allow for greater flexibility in the legislation applied regarding the presence of weapons in space, a flexibility which allows Iran to develop missiles capable of being outfitted with WMDs which do not reach orbit. Thus, Iran could surpass the limitations of the Outer Space Treaty and other similar treaties with its program and effectively undermine international peace and security in space.⁴¹

⁴⁰ General Assembly 16 December 2013 - UNOOSA.

www.unoosa.org/pdf/gares/A_RES_68_074E.pdf.

⁴¹ Robert.wickramatunga. “United NationsOffice for Outer Space Affairs.” *The Outer Space Treaty*, www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/introouterspacetreaty.html.



Possible solutions

Modernising space treaties

As seen above, space treaties as of today are largely outdated and while they might have been effective half a century ago, they couldn't have predicted the massive technological advancements made. For example, as mentioned earlier, ICBMs and other missiles that could be carrying deadly weapons were not even conceived at the time the current space treaties were signed. As a result, nations keep finding loopholes which they utilize to destabilize international security in space, by being allowed to use such weapons which are not mentioned in treaties, such as the Outer Space Treaty, which they have signed. It is therefore necessary to review these core space treaties to ensure they are more relative to the military threat present today. In other words, it is necessary to ban multiple new weapons that aren't mentioned in the original treaties, including ICBMs. Setting limits for satellites that are allowed to orbit the planet could reduce the number of militarized satellites that pose a threat to peace and security in space. It is also worth mentioning that with the content of such important treaties changing, the legislation for the ratification and abidance to these treaties needs to be updated as well. Firmer regulatory measures and enhanced monitoring technology, equal for all nations, could be introduced by UN bodies, which would potentially allow for the gradual demilitarization of space activities to occur, eventually leading to international peace and security in space. A key factor necessary to achieve the goals previously mentioned would be multilateral discussions in events such as the Conference on Disarmament or other events of similar character, to guarantee that no modern space-related technology is used for military purposes nor now nor in the future.

Creating tools to help monitor space

Another necessary step towards mitigating the military aspect of space programs is to establish a method which would allow for the objective monitoring of outer space, in order to identify any weapons or missiles in space, allowing practically for a better, more effective and easier application of the laws in favour of the



maintenance of international security in space. Such a project could be organized and operated by a specific UN committee, a UN body or even a combination of the two. Providing the necessary equipment however is a challenge which could be undertaken by NGOs such as private space agencies or even national space agencies, assuming proper regulation and monitoring is provided by the UN. This solution however is difficult to handle seeing as it would have to line up with a lot of different countries' policies in order to successfully work. An additional condition for a successful outcome is preventing said monitoring technology from being used nationally for national interests, namely military ones.

International Cooperation

In most global problems, lack of cooperation between nations is usually one of the causes the situation is not ameliorating, and a potential arms race in space is no exception. As such, it is crucial that delegates come up with solutions that apart from being efficient, also ensure that cooperation is also at least to some extent maintained. International cooperation could be achieved with multiple ways; sharing intelligence, partnership in designing the aforementioned monitoring technology and even the creation of international space agencies, such as the European Space Agency (ESA) are possible means of achieving this goal. Keeping in mind that the most basic reason a space conflict, or for that matter any conflict would occur is due to disagreement and lack of cooperation and understanding between nations, it is of profound importance to ensure that any solutions proposed are implemented in unison, so as to demilitarize space activities effectively and permanently without compromising the sovereignty of any nation.

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