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Committee on the Peaceful Uses of Outer Space (COPUOS)

Background Guide Topic:

Combating the Increase of Space Weapons and the Risk
of Space War



Director's Note

Dear Delegates,

I would first like to thank all of the delegates who applied for the Committee on the Peaceful uses of Outer Space at JMMUN this year. My name is Rikako Osawa and I am currently in my junior at Senzoku Gakuen. I am very excited to be a part of a conference with many intelligent delegates.

Last year I underwent my first experience as a Chair and not only did I acknowledge the difficulties of being a Chair, but I also re-acknowledged the difficulties of being a delegate. Delegates have to make speeches on the spot and create a resolution which the majority of countries can come to an agreement to. Some delegates will be able to present what they have prepared with confidence while others may be intimidated by the tense atmosphere. I am looking forward to a conference where all delegates are able to present their country's stance and take part in making resolutions. Please do not hesitate to ask the dias anything about the topic, conference, and flow of debate.

The topic of this committee is a problem that has been resurfaced recently. Space weapons were created when the Cold War started between the United States and the Soviet Union; however the invention of space weaponry was not made public until recently when countries started to invent and release missiles. The Chair hopes that this guide will help delegates understand this topic.

As the Director of this committee I am hoping for a conference where all delegates have a chance to share their ideas freely and the creation of multi-faceted resolutions. I sincerely hope this conference will be a great experience where delegates can learn from.

Sincerely



Rikako Osawa, Director
Committee on the Peaceful Uses of Outer Space
Senzoku Gakuen Model United Nations Club
Japan Metropolitan Model United Nations 2019

Introduction of the Committee

The Committee on the Peaceful uses of Outer Space (COPUOS) was established in 1959 by the General Assembly after the first artificial satellite was launched in 1958 and is annually held in Vienna, Austria. This committee was set for the purpose to explore and develop space for peaceful purposes by launching research programmes and discussing legal problems arising in outer space. Since the start of the space era, technological development in outer space has been constantly progressing and this committee has been providing a stage for countries to discuss the ownership of technology in outer space, in addition to debating on the purpose of the invention of the technology. COPUOS reports to the Fourth Committee where the resolutions and treaties made inside COPUOS are organized; furthermore, the committee has two subcommittees: the Scientific and Technical Subcommittee and the Legal Subcommittee.¹

Key Terms

Anti-satellite Missiles (ASAT)

An anti-satellite missile is anything that destroys or physically damages a satellite. The missiles take many shapes. The most common shape is when a missile is sent into space to collide with its target.

¹ Robert.wickramatunga. "United NationsOffice for Outer Space Affairs." *COPUOS*, <http://www.unoosa.org/oosa/en/ourwork/copuos/index.html>.

However, the missile does not necessarily need to be airborne: taking out the targeted satellite ground station achieves the same goal.

Currently, there are four countries who have to the anti-satellite missile: China, India, Russia, and the United States. While the countries who have access to the missile claim that the missile is for defensive or scientific purposes, others criticize the missile for the amount of space debris it produces and that the anti-satellite missile is one of the main reasons the space race started.²

Ballistic Missiles

Ballistic missiles can rapidly and accurately deliver payload such as explosives and biological, chemical, or nuclear warhead to a target. The missile can be launched by fixed sites or mobile launchers. Combined with the missiles' inexpensiveness, it can be predicted that the numbers of missiles will increase in the future.

In 1957 the USSR and the United States signed an anti-ballistic missile treaty in order to limit their actions in nuclear arms. However, by 2002 the United States withdrew from the treaty explaining how terrorist groups' usage of ballistic missiles made it necessary for the United States to

² Al Jazeera. "What Are Anti-Satellite Weapons?" *News | Al Jazeera*, Al Jazeera, 27 Mar. 2019, <https://www.aljazeera.com/news/2019/03/anti-satellite-weapons-190327092138702.html>.

form a defense force utilizing the same technology. The United States leaving the treaty automatically made the treaty invalid, since the treaty was formed by the two nations.³

Space Debris

Both natural and man-made particles consist space debris. While natural particles (meteorite) mainly orbit the sun, man-made particles orbit the earth.

Particles orbiting the earth are referred to orbital debris and are consisted of broken parts of spacecrafts and blown up missiles. Currently, there are 20,000 pieces of debris larger than a softball, 500,000 pieces larger than a marble, and millions of pieces that are too small to be tracked. Even the smallest piece of debris can destroy or at least harm space crafts since most of the particles orbit the earth at 17,000 mph. The ongoing cycle of orbital debris creating even more debris is called the Kessler Syndrome and is a topic greatly debated by researchers.⁴

Space Situational Awareness (SSA)

SSA is a term recently used due to the increase of space debris and the fear of collusion. The term broadly refers to the knowledge of the near-space environment

both natural and man-made. The European Space Agency divides the SSA into three segments:

- Space Surveillance and Tracking of objects in earth orbit (SST) , a segment which is charge of “watching for active and inactive satellites, discarded launch stages and fragmentation debris which orbit the Earth”⁵,
- Space Weather (SWE), a segment in charge of “monitoring conditions at the Sun and in the solar wind, and in Earth’s magnetosphere, ionosphere, and thermosphere that can affect space borne and ground based infrastructure or endangered human life or health”⁶, and
- Near Earth Object (NEO), a segment which detects objects “that can potentially impact Earth and cause damage”⁷.

While the U.S. Strategic Command defines the SSA as, “the requisite current and predictive knowledge of space events, threats, activities, conditions and space system (space, ground, link) status capabilities, constraints and employment -- to current and future, friendly and hostile-- to enable commanders, decision makers, planners and operators to gain and maintain space superiority across the spectrum of conflict.”(Space Academy)⁸

Statement of the Problem

³ “Fact Sheets: Arms Control Association.” *Fact Sheets | Arms Control Association*, Arms Control Association, www.armscontrol.org/factsheets/abmtreaty . Accessed 28 Oct.2019.

⁴ Garcia, Mark. “Space Debris and Human Spacecraft.” *NASA*, NASA, 14 Apr. 2015, https://www.nasa.gov/mission_pages/station/news/orbital_debris.html.

⁵ *Space Situational Awareness*, <https://www.spaceacademy.net.au/intell/ssa.htm>.

⁶ *ibid.*

⁷ *ibid.*

⁸ *ibid.*

Historical Context

Space exploration was previously dominated by the United States and the Soviet Union. By the end of World War 2, the Soviet Union made their most important military aspect rockets and by the mid 1950s, the Soviet Union announced that they were ready to launch a ballistic missile.⁹

During the Cold War, the Soviet Union focused on the creation of a militarized space through rocket and missile development. At the same time as the Soviet Union openly announcing their project to militarize space, the United States established NASA, a completely civilian enterprise, while focusing on military space efforts under Pentagon.

In the same year NASA was founded, the United States succeeded in launching its own satellite, Explorer 1. This launch heated up the space race between the two countries. While Yuri Gagarin, an astronaut from the the USSR, became the first person to orbit Earth by travelling inside a capsule-shaped spacecraft, Vostok 1, he United State struck back by designing a cone-shaped spacecraft far lighter than Vostok 1. During the space race, the two countries repeated the process of designing, inventing, and launching spacecrafts and satellites.¹⁰

⁹ Dunbar, Brian. "United States-Soviet Space Cooperation during the Cold War." *NASA*, https://www.nasa.gov/50th/50th_magazine/coldWarCoOp.html. Accessed 28 Oct. 2019.

¹⁰ *ibid.*

The space race eventually calmed down after the United States's Apollo 11 managed to land on the moon.¹¹

Contemporary Context

After the fall of the Soviet Union, the United States gained dominance in satellite technology, allowing the country to have a great advantage at battlefields. However, the investments which China and Russia made towards space exploration has changed this situation.¹²

When creating the anti-satellite missiles and ground-based lasers, countries destroy their own satellites as field test. These experiments create loads of space debris, affecting other spacecrafts which orbit Earth and even Earth itself. For example, when China blew up one of its weather satellites, it produced over 1,600 pieces of debris. India's test launch of an anti-satellite missile created such a terrible amount of space debris that it threatened the astronauts aboard the Space Station.

From the amount of space debris orbiting Earth, it is conspicuous that a "Cold War" has started in space. Russia, China, and the United States are the main countries competing for the dictatorship of space and the development of space weaponry. This "Cold War" causes misunderstanding between the countries.

¹¹ *ibid.*

¹² Thesheetztweetz. "China and Russia Are Militarizing Space with 'Energy Weapons' and Anti-Satellite Missiles: Pentagon." *CNBC*, *CNBC*, 13 Feb. 2019, <https://www.cnbc.com/2019/02/13/pentagon-warns-of-weaponization-of-space-by-china-russia-report.html>.

For example, China blowing up a weather satellite in 2007 was taken as a threat by the United States who responded to this by testing Operation Burnt Frost, the first anti-satellite missile tested by the United States in thirty years, and blowing up one of its satellites. Due to this competition over the dictatorship of space, misunderstandings are constantly repeated.

¹³

This constant repetition has led neighboring countries to join the “super league” of space powers. Japan and India made an alliance concerning space missions and technologies. Countries like Israel and Iran have been cooperating with the United States’ mission and started to fund space exploration, in other words militarizing space.¹⁴

Current Situation

Asia

China

China takes a very complex stance concerning weaponry in space. In 2014, China and Russia submitted a draft of the Treaty on the Prevention of the Placement of Weapons in Outer Space to the Conference on Disarmament (CD). The draft prohibited the placement of weapons in outer space and noted numerous dangers which might trigger an arms race.

¹³ *ibid*

¹⁴ Adams, Dallon. “Weaponized Satellites and the Cold War in Space.” *Digital Trends*, Digital Trends, 1 May 2018, <https://www.digitaltrends.com/cool-tech/weaponized-satellites-and-the-cold-war-in-space/>.

However, the Pentagon has recently announced, “China’s military is becoming increasingly adept at militarizing commercial space technologies” (Voanews).¹⁵ The United States has repeatedly claimed that the submission of the treaty was nothing surpassed the effort of propaganda and limiting the United States’ actions in space. China has responded back by claiming that “China has never and will never participate in any form of arms race in the future.”(CNBC)¹⁶

Russia

Russia takes a similar position concerning the placement of weapons in space and the creation of a space army. Despite submitting a draft of the Treaty on the Prevention of the Placement of Weapons in Outer Space, Russia is feared for the space weapons that are thought to be invented during the Soviet Union era.

On November 1, 1963, Russia launched the first prototype of an anti-satellite system which was intended to destroy enemy satellites into pieces. This project developed a decades-long race of inventing space weapons and increased the

¹⁵ Schlein, L. (2018, October 8). US to Confront Russia, China on Militarization of Outer Space. Retrieved from <https://www.voanews.com/usa/us-confront-russia-china-militarization-outer-space>

¹⁶ Thesheetztweetz. (2019, February 13). China and Russia are militarizing space with 'energy weapons' and anti-satellite missiles: Pentagon. Retrieved from <https://www.cnb.com/2019/02/13/pentagon-warns-of-weaponization-of-space-by-china-russia-report.html>

number of countries considered to be space powers: China and Iran.¹⁷

India

India's prime minister Narendra Modi announced that India has recently succeeded in shooting down a low orbiting missile and that India joined the "super league" of the space powers.

The main purpose for creating a anti-satellite missile comes from the fear that China will have full advantage of the Indian Ocean. In order to prevent China from enhancing its abilities, the country joined the space defense race and let out a message that India is "not just capable to defend on land, water and air but now also in space." (Newsweek)¹⁸ China reacted to the launch of the missile by emphasizing the importance of the usage of missiles in appropriate situations; however, China did not reject India for launching an anti-satellite missile.

Japan

The growing fear that China, U.S., and Russia will dominate and militarise space has forced Japan and India to share satellite data and surveillance technology.

¹⁷ Zak, A. (2018, February 15). The Hidden History of the Soviet Satellite-Killer. Retrieved from <https://www.popularmechanics.com/space/satellites/a9620/the-hidden-history-of-the-soviet-satellite-killer-16108970/>

¹⁸ Paton, Callum. "India Just Shot down a Satellite for the First Time, Joining 'Super League' of Space Powers." *Newsweek*, Newsweek, 27 Mar. 2019, <https://www.newsweek.com/india-just-shot-down-satellite-first-time-joining-super-league-space-powers-1376487>.

This partnership, Space Dialogue, will aid Japan with India's ocean surveillance and help the country track down Chinese naval vessels as well as North Korean missiles. In return, Japan Aerospace Exploration Agency (JAXA) will keep tabs on Chinese Troops trying to attack the Indian Ocean. Both countries emphasise space situational awareness (SSA) through the partnership, as well as raising awareness on the dangers China bring to space.¹⁹

The delegations for Space Dialogue, which are the Ministry of Foreign Affairs and the Cabinet Office, an official from JAXA, have also formed similar partnerships with the U.S., the European Union, and France.²⁰

Middle East

Iran

Iran's space development is unclear due to the lack of public announcements made by the country. What is known is that Iran has recently started to proceed in the development of counter space activity, in order to attack the U.S. space system.

Since the foundation of its Space Agency in 2003 is a fairly recent development, Iran is not yet capable of sending humans into space or creating anti-satellite missiles at this moment. However, Iran is pursuing the studies for the creations of anti-satellite

¹⁹ Shaw, Nupur. "India and Japan Awaken to Risks of Superpower Space Race." *Nikkei Asian Review*, Nikkei Asian Review, 8 Jan. 2019, <https://asia.nikkei.com/Spotlight/Asia-Insight/India-and-Japan-awaken-to-risks-of-superpower-space-race>.

²⁰ *ibid*

missiles by implementing the technologies from normal missiles and gaining aid from North Korea, China, and Russia.²¹

Though Iran may not have created an anti-satellite missile system, the nation has managed to make electronic forms of attacks against space systems, such as Voice of America (VOA) in 2003 and British Broadcasting Corporations (BBC) in 2010. The country is also known for its ability to spoof GPS signals. In 2011, Iran claimed that it managed to down a U.S. drone by jamming the satellite system and spoofing the GPS.²²

Israel

Along with the United States, Israel took part in the Tactical High Energy Laser (THEL) program, which made a significant contribution to the development of lasers targeting vehicles in space. After the project ended in 2005, the Minister of Defense ordered the administration for the development of weapons to continue the study and development of lasers. This resulted in the creation of the Iron Dome, which “detects, assesses, and intercepts a variety of short-range weapons” (Raytheon)²³ including rockets. The laser can activate in any weather condition or environment including rain, low clouds, and dust storms²⁴. The laser has

²¹ “Iron Dome and SkyHunter Systems.” *Raytheon*, <https://www.raytheon.com/capabilities/products/irondome>

²² *ibid*

²³ *ibid*.

²⁴ “Iron Dome and SkyHunter Systems.” *Raytheon*, <https://www.raytheon.com/capabilities/products/irondome>.

successfully intercepted over two thousand rockets and was able to intercept eighty percent of the rockets aimed at the densely populated areas during the Gaza strip²⁵. In addition, the United States is planning to purchase two of the battlefield-proven lasers, unlike project THEL which finished unpurchased.

Europe

United Kingdom

Russia and China are the concerns of the United Kingdom when thinking about space weaponry. United Kingdom has been in partnership with the European Union (EU) regarding space weaponry. However, due to Brexit, the United Kingdom may suffer in the future. In spite of the United Kingdom’s will, it is discussed that there is a low chance of the country staying in the European Space Agency²⁶.

Meanwhile, the United Kingdom continues to work with the United States’ military space activities²⁷. The United Kingdom has also established a strategy which explains about defence of the country. The United Kingdom may develop satellites which includes laser dazzling in order to

²⁵ Azulai, Yuval. “Israel Developing New Laser Missile Defense System.” *Globes*, *Globes*, 6 Dec. 2018, <https://en.globes.co.il/en/article-defense-ministry-speeds-up-laser-missile-defense-system-development-1001263646>. Accessed 28 Oct. 2019.

²⁶ “As Satellites Become Targets, UK Military Seeks Closer Ties with Space Industry.” *SpaceNews.com*, 7 Nov. 2018, <https://spacenews.com/as-satellites-become-targets-u-k-military-seeks-closer-ties-with-space-industry/>.

²⁷ *ibid*.

monitor threats from countries such as Russia and China²⁸.

France

France has recently announced to set up a new space defence command in September this year in order to protect their satellites²⁹. This command was triggered by an incident when there was an announcement that Russian satellites were spying on French satellites. French Defense Minister had stated that “France is not embarking on a space arms race”(arsTECHNICA). However, the project outlined by French officials include satellites with machine guns and some include ground-based laser system, which can be called as weaponeries³⁰.

Referring to this project, President Macron has stated, “We will strengthen our knowledge of the space situation, we will better protect our satellites, including an

²⁸ McGrath, Ciaran. “UK's Defence Strategy REVEALED: Laser Attacks, Missiles and Nuclear Weapons MAJOR Risks.” *Express.co.uk*, Express.co.uk, 8 May 2019, <https://www.express.co.uk/news/world/1124435/uk-defence-strategy-satellites-nuclear-missiles-security-threats-galileo>.

²⁹ “France to Create New Space Defence Command in September.” *BBC News*, BBC, 13 July 2019, www.bbc.com/news/world-europe-48976271.

³⁰ Berger, Eric. “To Protect Its Satellites, France Outlines Ambitious Space-Weapons Program.” *Ars Technica*, 25 July 2019, <https://arstechnica.com/science/2019/07/france-says-it-will-create-its-own-space-based-weapons-program/>.

active way” (BBC)³¹. There has been some unclear comments on whether France will be working on space weaponry or not.

North America

United States

The first U.S. satellite, Explorer 1, went into orbit on January 31, 1958. In 1969, an American astronaut stepped onto the moon, and from there, six Apollo missions were made to explore the moon between 1969 and 1972.³²

For recent actions, on June 18, 2018, President Donald Trump has announced to start a new space force as the sixth military branch to carry out missions in the space domain.³³

On August 8, 2019, United Launch Alliance (ULA) has launched Atlas V rocket, which allows the U.S. Air Force to have a highly advanced communications satellite in space. A secure military communications satellite will provide jam-proof communications between U.S.

³¹ “France to Create New Space Defence Command in September.” *BBC News*, BBC, 13 July 2019, <https://www.bbc.com/news/world-europe-48976271>.

³² “A Brief History of Space Exploration.” *The Aerospace Corporation*, <https://aerospace.org/article/brief-history-space-exploration>.

³³ Pawlyk, Oriana. “It's Official: Trump Announces Space Force as 6th Military Branch.” *Military.com*, 18 June 2018, <https://www.military.com/daily-news/2018/06/18/its-official-trump-announces-space-force-6th-military-branch.html>.

national leadership and deployed military forces.³⁴

Canada

Canada holds disapproval towards space weapons, and is willing to ban those weapons. Foreign Affairs Minister Bill Graham states, “Canada will continue to oppose the concept of military weapons in outer space even if Ottawa joins the United States in a ballistic-missile defence program” (Sallot, 2003)³⁵. He further mentioned that the motive for Canada to ban space weapons is to maintain the safety of the country³⁶.

White Paper, articulated by Canada in 1994 states that Canada understands the importance of space community and security. This paper also proves the flexibility of the future implementation of surveillance system in order to prevent possible attacks from the United States³⁷.

Latin America

Argentina

³⁴ Thompson, Amy. “Atlas V Rocket Launches Advanced Communications Satellite for US Military.” *Space.com*, Space, 8 Aug. 2019, <https://www.space.com/air-force-military-satellite-launch-aefh5.html>.

³⁵ “Canada Rejects Any Weapons in Outer Space.” *The Globe and Mail*, 18 Apr. 2018, <https://www.theglobeandmail.com/news/national/canada-rejects-any-weapons-in-outer-space/article1014264/>

³⁶ *ibid.*

³⁷ Kowal, L.-C. H. (n.d.). PREVENTING THE WEAPONIZATION OF SPACE. Retrieved from https://www.cfc.forces.gc.ca/259/181/76_kowal.pdf

Argentina had signed the joint statement with Russia under the topic of space weapons. The statement makes sure that Russia and Argentina will never be the first country to put weapons in outer space³⁸. Argentina has been active in the development of the space missiles since the 1980s. However, the United States insisted the restriction on programme that Argentina was working on³⁹.

Argentina has been one of the Space Station run by China. It has been a controversial topic whether Argentina should be in China’s orbit⁴⁰. Although Argentina does not have a clear position on the implementation of space weapons, it is clear that threat from China exists.

Brazil

In the 1990s, Brazil abandoned all the activities which relate to ballistic missiles. However, there are some concerns from military control over the space launch vehicle (SLV) programme that Brazil may be actually developing its ballistic missile

³⁸ Sputnik. “Russia, Argentina Sign Statement Against Weapons in Space.” *Sputnik International*, 28 May 2014, <https://sputniknews.com/russia/20140528190191573-Russia-Argentina-Sign-Statement-Against-Weapons-in-Space/>.

³⁹ Pike, John. “Space.” *Argentina Space Facilities*, <https://www.globalsecurity.org/space/world/argentina/launch.htm>.

⁴⁰ Londoño, Ernesto. “From a Space Station in Argentina, China Expands Its Reach in Latin America.” *The New York Times*, The New York Times, 28 July 2018, <https://www.nytimes.com/2018/07/28/world/americas/china-latin-america.html>.

technology and exporting it to other countries⁴¹.

Brazil has been focusing on the development of space technology for the last few years. However, an explosion of the space centre in 2004, which resulted in 21 casualties, made Brazil take a step back from the research and development of the space programme. They resumed their research in 2006. In 2007, Brazil launched its first rocket, VSB-30. At the same time, Brazil signed an agreement with Argentina to jointly develop a satellite that will provide and share much information⁴².

Africa

South Africa

South Africa's missile programme started in the 1960s. In 1989, South Africa launched what the country calls a "booster rocket", which includes ballistic missiles. However, South Africa abandoned its missile and space launch programmes in 1993 and dismantled related facilities which were under international observation. In 1995, South Africa joined the Missile Technology Control Regime

(MTCR)⁴³ as well as concluded a treaty between Russia⁴⁴.

Furthermore, the South African government also mentioned in 2018 that they are aware of the development that space weaponization will conduct. South Africa has also agreed to support China and Russia's draft treaty⁴⁵.

Oceania

Australia

Australia started its space development in 1967, being the third nation to design and launch a satellite to orbit Earth. The project aimed to research the connection between the upper atmosphere, climate, and weather, which may assist the US in collecting physical data for research programs. The project also aimed to develop and demonstrate Australia's capability for developing a satellite, using advanced technology and low-cost launch facilities⁴⁶.

⁴¹ Brazil. (2015, July). Retrieved from <https://www.nti.org/learn/countries/brazil/>

⁴² COHA, Alex Sánchez -. "Space Technology Comes to Latin America: Part of the Hemisphere's Road to Autonomy." *Venezuelanalysis.com*, 12 Sept. 2008, <https://venezuelanalysis.com/analysis/3787>

⁴³ "South Africa." *Nuclear Threat Initiative - Ten Years of Building a Safer World*, <https://www.nti.org/learn/countries/south-africa/>.

⁴⁴ Dunk, F. G. von der. (1995). TWO NEW NATIONAL SPACE LAWS: RUSSIA AND SOUTH AFRICA. Retrieved from <https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1046&context=spacelaw>

⁴⁵ "Raising Alarm over Possible Space Wars, First Committee Delegates Explore Ways to Build New Order for Preventing Celestial Conflict, Confrontation | Meetings Coverage and Press Releases." *United Nations*, United Nations, <https://www.un.org/press/en/2018/gadis3609.doc.htm>.

⁴⁶ WRESAT - Weapons Research Establishment Satellite. (2016, April 27). Retrieved from

Recently, the need for developing new types of low-cost satellites has increased. Due to many conditions, global weather services have traditionally been supported by large and expensive satellite systems. The changes in the global space industry have allowed weather services to explore traditional data streams with data from commercial suppliers, where new analytics methods can better integrate data⁴⁷.

New Zealand

New Zealand recently joined the space development race, and is putting effort into the technological improvements. Despite the country's new entry in the race, New Zealand is dependent on satellites and space security is a concern. New Zealand considers space security from two different views: space debris and militarization of space⁴⁸.

<https://www.dst.defence.gov.au/innovation/wresat---weapons-research-establishment-satellite>

⁴⁷ REVIEW OF AUSTRALIA'S SPACE INDUSTRY CAPABILITY

<https://www.industry.gov.au/sites/g/files/net3906/f/June>

2018/document/pdf/review_of_australias_space_industry_capability_-_report_from_the_expert_reference_group.pdf. (2018, March). Retrieved from

<https://www.industry.gov.au/sites/g/files/net3906/f/June>

2018/document/pdf/review_of_australias_space_industry_capability_-_report_from_the_expert_reference_group.pdf

⁴⁸ New Zealand Ministry of Foreign Affairs and Trade. "Space Security." *New Zealand Ministry of Foreign Affairs and Trade*,

[In 2017, a rocket, made by an American company, was launched from New Zealand. The company had chosen New Zealand for the site because of the geographical location. New Zealand is known to be positioned well to launch the satellites into north to south orbit.](https://www.mfat.govt.nz/en/peace-rights-</p></div><div data-bbox=)

Therefore, there is a high chance that other countries from around the world will use the location to launch theirs⁴⁹.

Case Studies

Since the Cold War, numerous space weapons have been invented. The space weapons include those which can track missiles, anti-satellite missiles, and anti-satellite missiles. This section will be providing a brief explanation on a few of the space weapons.

Case Study 1

Near-Field Infrared Experiment (NFIRE)

The satellite used in the Near-Field Infrared Experiment (NFIRE) was proposed by the Missile Defense Agency (MDA)⁵⁰ and launched on April 24, 2007. NFIRE was initially invented for the purpose of distinguishing a missile from a

and-security/international-security/space-security/.

⁴⁹ "New Zealand Space Launch Is First from a Private Site." *BBC News*, BBC, 25 May 2017, <https://www.bbc.com/news/world-asia-39971843>.

⁵⁰ Near Field InfraRed Experiment . (2016, July 28). Retrieved from <https://www.mda.mil/global/documents/pdf/nfire.pdf>

rocket. The satellite originally had two kill vehicles which would fire when a ballistic missile would enclose within four kilometers of the missile. These kill vehicles were later removed and the satellite changed its purpose.

The NFIRE successfully collected data, such as hyper-temporal short wave data which supports research and development of early launch detection and tracking capabilities. These data collections evidently showed the capabilities of tracking missiles through sunlit clouds.

Case Study 2

Ground-Based Lasers

Since Australia found the capabilities to detect, locate, and track space debris, numerous countries have started conducting research to reduce the amount of space debris orbiting Earth. One possible solution is implementing ground-based laser which will track the debris and later destroy it.⁵¹

While ground-based lasers can be used for protection, the Air Force has announced that it will test two lasers to test how the lasers can be used against drones. The Air Force explained that the laser is able to constantly fire without wasting any ammunition and that it will be useful when attacking small drones launched by ISIS. Furthermore, the technology used to take down drones can be applied to

⁵¹ GROUND-BASED LASERS IN SPACE OPERATIONS. (2018, June). Retrieved from <http://airpower.airforce.gov.au/APDC/media/PDF-Files/Pathfinder/PF312-Ground-based-lasers-in-space-operations.pdf>

anti-satellite weapons by using mirrors aiming at the targeted satellite.⁵²

Case Study 3

Project Tactical High Energy Laser (THEL)

Tactical High Energy Laser (THEL) is a high-energy laser beam generator based on deuterium fluoride chemical laser (DFCL) technologies. The laser had a tracking and pointing system along with a battle management system and an organic firing system⁵³. Project THEL was a project between the U.S. and Israel, and it took place from 1999 to 2005. The laser was designed and created during the first four years, and field experiments took place during the remaining five years. During the years when the laser was activated, it destroyed 46 rockets, including surprise attacks against Katyusha rockets. While THEL significantly contributed to the development of lasers used as weapons, despite its ability to activate in any kind of weather or environment, many countries were unwilling to pay the price, which led to the shutdown of the project.⁵⁴

⁵² Gregg, Aaron. "Air Force to Deploy Ground-Based Lasers in First Field Test of 'Directed Energy' Weapon." *The Washington Post*, WP Company, 2 Aug. 2019, <https://www.washingtonpost.com/business/2019/08/02/air-force-deploy-ground-based-lasers-first-field-test-directed-energy-weapon/?noredirect=on>.

⁵³ "Chemical High-Energy Laser Systems." *Northrop Grumman*, <https://www.northropgrumman.com/Capabilities/ChemicalHighEnergyLaser/TacticalHighEnergyLaser/Pages/default.aspx>.

⁵⁴ Pike, John. "Space." *Mobile Tactical High Energy Laser (MTHL)*,

Past Actions

United Nations Office For Disarmament Affairs

On October 4, 1957, the USSR launched the first artificial satellite. Prior to this launch, the United Nations started to take actions to prevent countries from destroying the concept of a peaceful outerspace. They focused on the control of space weapons and military in space to prevent mass destruction.⁵⁵

Outer Space Treaty (Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies)

Outer Space Treaty was adopted by the UN General Assembly in 1966. This treaty includes new provisions to the international exploration of outer space, which was adopted in 1962. Its goal is to explore the space for the benefit and in the interest of all countries. This party agrees not to develop nuclear weapons in space or any other weapon that might lead to the destruction of the space. The actions include testing weapons in space, establishing a military base, and maneuvering on celestial bodies.

Other Treaties

Limited Test Ban Treaty of 1963

<https://www.globalsecurity.org/space/systems/mthel.htm>.

⁵⁵ UNODA United Nations Office for Disarmament Affairs -Outer Space . (n.d.). Retrieved from <https://www.un.org/disarmament/topics/outerspace/>

This treaty prohibits the action of experimenting and testing nuclear explosions in the atmosphere or outer space.

Liability Convention of 1972

This treaty established the procedure to cover the damages or destruction of space object of another state.

UN Resolution

The UN General Assembly has been calling for the peaceful use of space and the prevention of an arms race in space for 22 years. In the past there have been five relevant General Assembly resolutions. The Declaration of Legal Principles Governing the Activities of States in the Exploration and Uses of Outer Space (1963) allowed the Outer Space Treaty to become valid. In addition, the Declaration on International Cooperation in the Exploration and Use of Outer Space for the Use and Benefit and in the Interest of All States (1966), resolutions on Direct Television Broadcasting, Remote Sensing of Earth from outer space, and the Use of Nuclear Power in Outer Space have been made in the past.⁵⁶

Questions to Consider

How does each nation define space weapons?

How do nations view the problem

⁵⁶ International Legal Agreements Relevant to Space Weapons. (2004, February 11). Retrieved from <https://www.ucsusa.org/nuclear-weapons/space-weapons/international-legal-agreements>

concerning the ownership of outer space?

How can the UN raise awareness on the dangers of creating ballistic missiles, and other space weapons?

To what degree can each country explore space freely? Consider the treaties and resolutions already submitted to the UN.

How can nations and the UN prevent terrorist groups from accessing space weapons?

The creation and test launching of space weapons have created a massive amount of space debris. Will nations take responsibility for the debris? If so, how will the nations manage to clean it?

Tips and Advice from the Chairs

As the chair of the Intermediate Committee, we hope that all delegates attend the conference understanding the topic and their nation's stance. When researching for this conference, start by researching the fundamental structures of the country: geography, population, allies, and etc. After understanding the basic structure of the country, try to connect the characteristics delegates researched to the topic of the conference or to the facts written inside of the background guide. If delegates have extra time, we advice delegates to research neighboring countries as well as the delegate's allies. Along with the research, we would like delegates to think of subtopics to discuss during moderated speeches.

We will review the flow of debate before the conference begins, so please do not hesitate to ask questions then if you are not familiar with how Model UN is runned. We are excited to see an intense debate throughout the conference.

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