

XXXVIII

TECMUN

United Nations Office for
Outer Space Affairs

XXXVIII TECMUN
Session Schedule

Wednesday, April 9th

Registration	8:00 – 9:00 h
Opening Ceremony	9:00 – 10:00 h
Break	10:00 – 10:30 h
First Session	10:30 – 12:30 h
Break	12:30 – 13:00 h
Second Session	13:00 – 15:00 h
Meal	15:00 – 16:00 h
Third Session	16:00 – 18:00 h

Thursday, April 10th

Master Conference	8:30 – 9:30 h
Break	9:30 – 10:00 h
Fourth Session	10:00 – 12:30 h
Break	12:30 – 13:00 h
Fifth Session	13:00 – 15:00 h
Meal	15:00 – 16:00 h
Sixth Session	16:00 – 18:00 h

Friday, April 11th

Seven Session	8:00 – 9:30 h
Break	9:30 – 10:00 h
Eight Session	10:00 – 12:00 h
Break	12:00 – 12:30 h
Ninth Session	12:30 – 14:40 h
Meal	14:40 – 16:00 h
Closing Ceremony	16:00 – 18:30 h

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General Agenda

Secretary General: Paulo Souto Núñez

GENERAL COORDINATION

Subsecretary of General Coordination: Brenda Noreña Mejía

*Supervisor of General Coordination for Co. Secretariat: Samuel Alejandro
Herrera Tapia*

GENERAL ASSEMBLY

General Subsecretary: William Vázquez Hernández

Supervisor of Coordination: Mauro Carrillo Gálvez

United Nations General Assembly

President: Guillermo Pacheco Infante

A) Measures to counter the forced displacement of citizens of Idlib in the Syrian Arab Republic due to attacks by the extremist group Hayat Tahrir al Sham (HTS) through regional dynamics involving support for Bashar al-Assad by the Russian Federation and the Islamic Republic of Iran.

B) Actions to counter the influence of the Grey Wolves in Europe, in order to mitigate ethnic tensions within Turkish expatriate communities, with emphasis on the Federal Republic of Germany, the Republic of Austria and the French Republic.

Histórico Comité Especial de los 24

Presidenta: Yésika Pamela García Trejo

A) Medidas para frenar el colonialismo en el territorio Ruanda-Urundi, actualmente República de Ruanda y República de Burundi, por parte de la República Federal de Alemania y el Reino de Bélgica, con énfasis en la reducción de prácticas discriminatorias entre los grupos étnicos Hutus y Tutsis. (1950-1962)

B) Acciones para examinar la solicitud de África Oriental Portuguesa, hoy República de Mozambique, para su independización de la República Portuguesa, buscando fortalecer la estructura económica y detener la explotación de recursos agrícolas y minerales dentro del territorio por parte de empresas del sector privado. (1964-1975)

Sixth Legal Committee

President: Sara Sofía Govantes Cruz

A) Measures to address human rights violations, including extrajudicial executions and sexual violence, in the ongoing conflict in the Republic of Sudan and their global implications for civilian protection in armed conflicts.

B) Strategies to address the legal implications of the Islamic Republic of Iran's support for Palestinian militias in the Israeli-Palestinian conflict, with emphasis on state sovereignty and application of international law.

Organization for Security and Co-operation in Europe

President: Claudia Guadalupe Pfeiffer Benítez

- A) Actions to cease the migrant smuggling networks in the Central Mediterranean Route of Europe, with focus on border security and dismantling of criminal networks in the frontier states of the Italian Republic and the Republic of Malta.
- B) Strategies to counter human trafficking with emphasis on labor exploitation currently committed by the Albanian Mafia in Western Europe in the French Republic and the United Kingdom of Great Britain and Northern Ireland.

Programa Conjunto de las Naciones Unidas sobre el VIH/SIDA

Presidente: Emiliano Melchor Romo

- A) Estrategias para prevenir la transmisión vertical del VIH en mujeres embarazadas, así como mitigar el impacto que tiene en los niños y adolescentes que lo portan en la región subsahariana de África.
- B) Acciones para contrarrestar los crecientes casos de VIH en la comunidad LGBTQ+ latina que reside en los Estados Unidos de América, priorizando el acceso a los tratamientos necesarios dentro del sistema de salud.

Alto Comisionado de las Naciones Unidas para los Refugiados

Presidenta: Abril Valdés Calva

Tópico Único) Medidas para salvaguardar los derechos humanos y la seguridad de los refugiados somalíes afectados por la crisis humanitaria en el Cuerno de África a causa de la división étnica en la República Federal de Somalia.

United Nations Convention against Transnational Organized Crime

President: Paulina de la Victoria Patiño

- A) Measures to regulate and eliminate the trafficking routes and production of synthetic drugs in laboratories, with emphasis on the fabrication of methamphetamines and cultivation of opium in the Golden Triangle in Asia.
- B) Strategies to cease the trafficking and smuggling of firearms across the border states between the nations that compose the Sahel region in Africa due to the presence of several organized crime groups and lack of governance.

Oficina del Representante Especial del Secretario General sobre la Violencia Sexual en los Conflictos

Presidenta: Ana Paula García López

- A) Acciones para fortalecer el marco legislativo y la cooperación internacional sobre los grupos de apoyo y las misiones de la Organización de las Naciones Unidas con base a la violencia sexual por parte de los Cascos Azules en la República de Haití.
- B) Estrategias para prevenir el uso de la violencia sexual como táctica militar por parte de grupos armados en el conflicto bélico entre la Federación de Rusia y Ucrania, con énfasis en el reforzamiento de servicios de atención y rendición de cuentas.

ECONOMIC AND SOCIAL COUNCIL

General Subsecretary: Miranda Senties Carmona

Supervisor of Coordination: Aarón Badillo Aguilar

Comisión de la Condición Jurídica y Social de la Mujer

Presidenta: Paulette Mayen Alvarez

- A) Mecanismos para la implementación de reformas sobre la crisis de las niñas y las mujeres relacionada al consumo de sustancias nocivas agravada por la violencia de género, haciendo énfasis en la situación de la expectativa de género del Reino de Arabia Saudita.
- B) Acciones para erradicar la marginación hacia las mujeres y niñas en naciones afectadas por conflictos y desigualdad de género dentro de Asia Meridional y África Subsahariana.

International Organization for Migration

President: Ana Mercado Garduño

- A) Measures and strategies for enhancing security and protection of Syrian refugees transitioning in the Hashemite Kingdom of Jordan and the Republic of Türkiye.
- B) Strategies for reintegration of incoming migrants in Central America, focusing on the Republic of El Salvador and the Republic of Honduras.

United Nations Interregional Crime and Justice Research Institute

President: Diego Ortiz Martínez

- A) Actions to combat crimes linked to exploitation of critical minerals derived from weak law enforcement in the states of Africa, emphasizing in the Democratic Republic of the Congo.
- B) Measures to counter organized criminal groups nexus with firearms trafficking networks in the Latin American region with emphasis in the Triple Frontier.

Organización Mundial del Comercio

Presidenta: Mariana Méndez Cruz

- A) Estrategias para mitigar el comercio ilícito y fraudulento de productos médicos y farmacéuticos en la región de Asia y el Pacífico.
- B) Medidas para contrarrestar el conflicto político relacionado al comercio de minerales energéticos y esenciales de América latina y el Caribe.

Comisión de Prevención del Delito y Justicia Penal

Presidenta: Natalia Forcada Nava

- A) Estrategias para prevenir la trata de personas perpetuada por el grupo terrorista Tren de Aragua, con un enfoque en la República Bolivariana de Venezuela y la República de Colombia
- B) Mecanismos para terminar la influencia del grupo terrorista Hizbulá en el Medio Oriente y América Latina, con énfasis en la República Libanesa y la República Bolivariana de Venezuela

United Nations Educational, Scientific and Cultural Organization

President: Gabriel Salazar Valdovinos

- A) Measures to counter the environmental and economic impacts of sea levels' rising, and the climate change on island nations, through new technologies and sustainable solutions with emphasis on the Republic of the Maldives and Tuvalu.

B) Strategies to boost Science, Technology, Engineering and Mathematics (STEM) education and increase investment in scientific and technological development in Latin America, with emphasis on the United Mexican States.

Instituto de las Naciones Unidas de Investigación sobre el Desarme

Presidenta: María José Parra Meza

A) Acciones para neutralizar el conflicto armado dentro de la región del Sahel, con énfasis en los ataques de grupos extremistas yihadistas.

B) Acciones para neutralizar el conflicto armado dentro de la República de la Unión de Myanmar causado por el enfrentamiento de grupos religiosos dentro de la región.

Commission on Narcotic Drugs

President: Mariana Carolina Guerrero Zárate

A) Strategies to reduce the trafficking and consumption of synthetic drugs within Latin American prisons due to the inadequate penitentiary security systems, with an emphasis on the Federative Republic of Brazil.

B) Measures to reduce the production of synthetic drugs due to the presence of drug trafficking groups in rural areas of Latin America, focusing on illicit coca leaf in the Republic of Peru and the Republic of Colombia.

SPECIALIZED AGENCIES AND REGIONAL ORGANISMS

General Subsecretary: Aranza Michelle Castro Rivero

Supervisor of Coordination: Sofía Torres Escalante

United Nations Office for Outer Space Affairs

President: Patrick Eduardo Cunillé Paniagua

A) Strategies to regulate the use of Artificial Intelligence in outer space to ensure global peace, development and prevent militarization.

B) Measures to promote fair and sustainable utilization of space resources, seeking equitable access, and collaboration among nations to foster global development in the space economy.

North Atlantic Treaty Organization

President: Axl Paris Ortega Rodríguez

A) Strategies to address security challenges and environmental responsibilities in the Arctic, countering militarization and fostering regional stability.

B) Measures to enhance NATO's role in the Serbia-Kosovo conflict, foster reconciliation in the Balkans, and mitigate Russian influence.

Comité Internacional de la Cruz Roja

Presidenta: María José Zárraga García

A) Medidas para garantizar la protección de las minorías étnicas de la República de la Unión de Myanmar frente al uso de minas antipersonales, debido al actual conflicto armado civil.

B) Estrategias para mitigar el impacto del conflicto armado en la infraestructura sanitaria de la República del Sudán, priorizando el acceso a servicios médicos para las comunidades afectadas.

International Criminal Police Organization

President: Fátima Fuente del Campo González

Unique Topic) Measures to address transnational trafficking networks responsible for human trafficking, sexual and labour exploitation of women and girls.

Security Council

President: Samantha Salgado Nájjar

A) Measures to mitigate the maritime security crisis in the Republic of Yemen, with emphasis on the Red Sea violence and security restoration.

B) Strategies to prevent a possible military deployment from the Republic of the Philippines and the United States of America to the People's Republic of China, due to recent territorial disputes in the South China Sea.

Conseil des Droits de l'Homme

Président: Oscar Avila Pérez

A) Actions visant à renforcer l'enquête sur les homicides et les crimes de haine envers les femmes trans aux États-Unis Mexicains, mettant en évidence l'inefficacité du système judiciaire à rendre justice et à garantir leur sécurité.

B) Dispositifs légaux pour arrêter les atteintes aux droits des femmes en République Islamique d'Afghanistan en raison des lois talibanes, en portant une attention particulière à la violence sexuelle subie.

Histórica Asociación de Naciones del Sudeste Asiático

Presidenta: Daniela Alexa Alcántara Sosa

A) Acciones para frenar las violaciones de derechos humanos cometidas por el Tatmadaw en la Unión de Birmania a causa del conflicto civil, con énfasis en los abusos sufridos por el grupo étnico Rohinyá y el incumplimiento de la Carta de la ASEAN. (1968)

B) Estrategias para regular la migración de refugiados vietnamitas con énfasis en los desplazados provenientes de las ciudades de Saigón y Hanoi a países del Sudeste Asiático, a causa del conflicto bélico entre la República Democrática de Vietnam y la República de Vietnam. (1955-1975)

Corte Penal Internacional

Presidenta: Andrea Abigail Salazar López

A) Acusación contra Benjamín Netanyahu, primer ministro del Estado de Israel, por presuntos crímenes de guerra perpetrados en Gaza.

B) Investigaciones contra Nicolás Maduro y el gobierno de la República Bolivariana de Venezuela por posibles crímenes de lesa humanidad.

Dear Delegate,

Welcome to TECMUN, welcome to the United Nations Office for Outer Space Affairs, welcome to this experience that you will be a part of. A few years ago, I would not have imagined myself as a president in a model of the United Nations. But despite this, something that I have assimilated in my life is to always be open to new experiences and that it is good to get out of our comfort zone. I discovered the model of the United Nations in exactly this way. If you had told me 3 years ago that one day I would fulfill the dream of being a president at TECMUN or that I would meet people who would change my life and from whom I learned countless lessons, I would not have believed you. But here we are, one step closer to discovering a new passion, new people, and even a new dream. TECMUN has left a very big mark on my life and I am sure that it will happen to you too. During these 3 days you will experience many emotions. I know the nerves before the first session, not knowing what your table will be like or who you will share this new experience with. I also experienced those moments of stress thinking about proposals, but I also had the satisfaction of approving the resolution. Despite this, I think there is no better feeling than standing in front of everyone and telling the world what you think or what you believe in. Use these 3 days to interact with others whether for the first or the umpteenth time, but always remember that you can learn something transcendental and constantly train yourself. Enjoy every part of the process, understand the other delegates, communicate with your table, meet new friends, but above all, get to know yourself. You will never know what will happen, the great proposals you can contribute, or how your committee will progress. But remember, not everything in life is winning or losing, and even if it seems like you have lost, you will always gain experience and wisdom, which is why you should never give up under any circumstances. Thank you very much for admitting me as your president during this model, thank you for allowing us to be your table, for agreeing to listen to what you think, but I also want to thank you for having the courage to stand up and in front of everyone, speaking for such a valuable minute that makes us understand what you think. But the most important thing is to recognize yourself for believing in your ideals and saying what you think, which will help you grow as an individual. Remember: if you are going to bet at some point, bet on yourself.

Good luck!

Patrick Eduardo Cunillé Paniagua
President for the United Nations Office for Outer Space Affairs for the
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Background

According to the exploration and use of outer space, on December 13th of 1958, the United Nations Office for Outer Space Affairs (UNOOSA) was founded. It's an organ that forms part of the General Assembly of the United Nations, whose purpose is to promote international cooperation as well as the use and exploration of outer space with pacific terms, encouraging the use of science and technology, in order to achieve a sustainable economic and social development. Related to this, the Office helps to maintain legal and regulatory frameworks to govern the space activities, likewise working to help the nations, especially the ones in development, to access and take advantage of the benefits of outer space to increase the sustainable development. Currently, the UNOOSA has its headquarters in Vienna, Austria, and is formed by the Member States of the United Nations.

Faculties

The United Nations Office for Outer Space Affairs, to achieve its objectives, is permitted to:

- Create programs for the prevention and management of disasters in addition to the preservation of the space and terrestrial environment;
- Modificate, create or implement international laws and policies within the framework of international space legislation;
- Develop reports, studies, and publications covering emerging trends, challenges and advancements in space science and technology;
- Provide training, workshops, conferences and portals for the exchange of knowledge among nations;
- Create and refine international frameworks for sustainable space activities.

Topic A

Strategies to regulate the use of Artificial Intelligence in outer space to ensure global peace, development and prevent militarization

By: Patrick Eduardo Cunillé Paniagua

Introduction

The rapid evolution of Artificial Intelligence (AI) has impacted human activities in a significant way, and its integration into outer space operations, with no exception. AI has a vast potential in this domain by encompassing autonomous spacecraft navigation, predictive analytics for satellite operations, and enhancing the efficiency of space exploration missions. However, the transformative power of machine learning has significant risks with itself, particularly concerning its ethical use, as well as the potential for militarization¹, and the exacerbation² of global inequalities. Without proper regulation and oversight, these risks could undermine the collaborative and peaceful nature of space exploration, posing challenges to global security and equity.

Historically, technological advancements have often been influenced by geopolitical competition, and the rise of advanced algorithms in extraterrestrial activities without exception. Countries like the United States of America, the People's Republic of China, and private entities, such as the National Aeronautics and Space Administration (NASA) are leveraging AI to gain strategic advantages in outer space. Which could lead to a competitive arms race and the monopolization of critical extraterrestrial technologies. This underscores the urgent need for an international framework to regulate the use of technologies in outer space, ensuring it contributes to global peace rather than becoming a source of conflict and inequity.

There is a high importance in addressing concerns such as the weaponization of

¹ **Militarization:** The act of equipping or preparing something, for military purposes, often involving the deployment of weapons. (Cambridge, 2024).

² **Exacerbation:** The act of making a problem, situation or condition more severe. (Cambridge, 2024).

knowledge engineering in outer space, ethical challenges surrounding autonomous decision-making, and the marginalization of developing nations in accessing AI-powered space technologies. The unchecked proliferation of neural networks in these areas could have consequences, from the escalation of conflicts to the erosion of privacy and sovereignty. By tackling these issues, the international community can strive toward equitable and peaceful utilization of the exosphere, fostering trust and collaboration among states. This initiative aligns with global efforts to promote sustainable development in outer space and advance humanity's shared goals in the final frontier.

The Evolution of Artificial Intelligence in Extraterrestrial Applications

The journey of cognitive technologies began in the mid-20th century, with early advancements in computing and automation laying groundwork for today's innovations. During the Space Race of the 1960s, the United States of America and the United Socialist Soviet Republic employed rudimentary automation to support their ambitious lunar and orbital missions. Although these systems were primitive compared to modern standards, they marked the first step toward integrating intelligent systems into extraterrestrial endeavors. These initial applications demonstrated the potential of machines to perform tasks that would be challenging or hazardous for human operators.

By the 1990s, the rise of more sophisticated algorithms enabled significant advancements in satellite technology, allowing for more precise Earth observation and communication capabilities. The early 21st century witnessed a leap in autonomous technologies, with rovers like Spirit and Opportunity utilizing semi-autonomous systems to navigate the Martian surface. These milestones paved the machine learning to autonomously collect and analyze Martian samples. These developments demonstrate the continuous evolution of technology, bridging past innovations with future possibilities in extraterrestrial exploration.

In recent years, the commercialization of extraterrestrial activities has accelerated the development of smart technologies. Private companies like SpaceX and Blue Origin have integrated advanced analytics and real-time data processing to optimize rocket landings and reduce operational costs. However, this rapid progress has also highlighted the disparities between technologically advanced nations and those lacking resources, raising concerns about equitable access and ethical use. This dynamic emphasizes the need for global cooperation to ensure that technological advancements benefit all of humanity.

The Dual-Edged Nature of Synthetic Intelligence in Outer Space

Artificial Intelligence (AI) has emerged as a revolutionary force in the industry, including outer space operations, offering immense benefits to humanity. Its applications, such as autonomous spacecraft navigation, predictive analytics, and real-time data processing, have significantly improved the efficiency and safety of space missions. For instance, AI has enabled rovers like NASA's Perseverance rover, launched in the year 2020 to autonomously navigate Mars, collecting critical data with minimal human intervention. Similarly private companies such as SpaceX use AI to optimize rocket landings, reducing costs and enhancing reusability. These advancements demonstrate how intelligent retrievals can drive innovation and make space exploration more accessible and sustainable.

However, the rapid adoption of automatic technology in space poses significant risks that must not be overlooked³. One of the primary concerns is the potential for AI militarization, where autonomous systems could be weaponized for use in orbit. This could escalate geopolitical tensions and spark an arms race in outer space, undermining global security. Additionally, ethical challenges arise from AI's autonomous decision-making capabilities, particularly in life-critical missions where errors could have catastrophic

³ **Overclocked:** Idea of rushing or pushing something, or containing plenty of things. (Cambridge, 2024).

consequences. These risks highlight the importance of implementing safeguards to prevent misuse in space activities.

Another pressing issue is the potential for smart technology exacerbating existing inequalities among nations. Advanced technologies are predominantly controlled by a few developed countries and private corporations, leaving developing nations at a disadvantage. This monopolization of interstellar space technologies could deepen the technological divide, limiting opportunities for less-resourced countries to participate in space exploration. Furthermore, biased artificial intelligence algorithms⁴ may reinforce existing disparities, marginalizing vulnerable populations or regions. Addressing these inequalities is crucial to ensure that the benefits of automatization in space are shared equitably among all nations.

The dual-edged nature of cognitive computing in outer space underscores the need for a balanced approach to its development and use. While its potential for innovation is undeniable, the risks associated with its misuse cannot be ignored. By fostering international collaboration and establishing ethical guidelines, the global community can ensure that AI serves as a tool for peace and development rather than conflict and division. This balance is essential for creating a sustainable and inclusive future in space exploration.

Preventing the Weaponization of Algorithmic Intelligence in Outer Space

The potential weaponization of autonomous intelligence in outer space is one of the most pressing concerns as space technology advances. “Autonomous systems could be used to develop and deploy weapons in orbit, ranging from satellite-based missile defense systems to self-capable drones capable of attacking other space assets.” (Harvard University, 2023) The risks of such developments are profound, as the presence of weapons in space could lead to heightened geopolitical tensions, and create new avenues for conflict between nations.

⁴ **Algorithms:** A set of mathematical instructions or rules that, especially if given to a computer, will help to calculate an answer to a problem. (Cambridge, 2024).

Furthermore, the lack of clear accountability for AI-driven actions could make it difficult to attribute responsibility in the event of an attack or space-based incident, complicating diplomatic efforts to resolve disputes.

To prevent the weaponization of artificial technology in outer space, it is crucial to establish strategies and frameworks that regulate the use of self-conscious technologies in space. Existing treaties, such as the Outer Space Treaty, emphasize the peaceful use of outer space, but they haven't kept pace with the rapid advancements in smart technology and cognitive technologies. A more comprehensive and updated framework is needed to explicitly prohibit the development, deployment, and use of technological control mechanisms in space. This would ensure that such technologies are used solely for non-aggressive purposes, such as protecting satellites from space debris or enhancing space situational awareness.

Ensuring Equitable Access to Neural Network Technologies in Space

As automated systems have been evolving and becoming increasingly integral to universe's exploration, it is essential to ensure that their benefits are accessible to all nations, not just a select few. The swift progression of machine learning in space exploration risks deepening global disparities, as more developed countries and private entities could dominate space activities through their access to more advanced technologies. This could create a situation where only a handful of countries have the capability to fully participate in space exploration and benefit from the economic and scientific advancements it offers. In turn, this could marginalize developing countries, preventing them from contributing to or benefiting from the growth of the space sector.

To address this issue, international cooperation and capacity-building initiatives are essential. The global community must work to create frameworks that promote shared access to automated technologies, ensuring that developing countries are not left behind. This could

include providing financial assistance, technology transfer programs, and training opportunities to help less developed nations build their own AI capabilities for space applications. By fostering a more inclusive⁵ approach to machine intelligence in space, the international community can ensure that the advantages of space exploration are distributed more equitably, allowing all nations to contribute and benefit from the technological advancements in this field.

Moreover, ensuring equitable access to smart technologies requires addressing the potential for bias in robotic intelligence algorithms. If intelligent systems used in space exploration are developed without considering the diverse needs and perspectives of all nations, there is a risk that they may perpetuate existing inequalities. For example, automated systems designed primarily by and for developed nations may not account for the unique challenges faced by developing countries in space operations. To prevent this, it is crucial that neural networks are developed with inclusivity in mind, incorporating input from a wide range of stakeholders, including those from underrepresented regions. By doing so, the global community can ensure that AI in space contributes to sustainable development and benefits all nations, rather than exacerbating disparities.

Adaptive Systems for Collaborative Space Exploration: A New Era of Global Cooperation

Intelligent systems have the potential to revolutionize space exploration by enabling unprecedented levels of international collaboration. As exosphere missions become more complex and resource-intensive, machine intelligence can serve as a tool to facilitate cooperation between nations, allowing them to share data, resources, and expertise in ways that were previously not possible. AI-driven systems can streamline communication between space agencies, coordinate joint missions, and even manage partnerships, where countries

⁵ **Inclusive:** Including everything or all types of people. (Cambridge, 2024).

work together toward common goals, such as advancing scientific knowledge, addressing climate change, or exploring the possibility of human life on other planets.

In this new era of collaboration, algorithmic intelligence could also help ensuring that missions are more efficient and cost-effective. By using AI to optimize mission planning, automate routine tasks, and enhance instantaneous decision-making, space agencies can reduce operational costs and improve the success rate of joint missions. For example, AI could assist in managing complex spacecraft navigation, ensuring that all participating nations' spacecraft are safely and efficiently coordinated in shared missions. Furthermore, AI could be used to analyze vast amounts of data collected from space, enabling researchers from different countries to work together on groundbreaking⁶ scientific discoveries, without the need for extensive travel or logistical coordination.

This vision of AI-powered collaboration in space also opens up new possibilities for developing and managing space infrastructure. For example, machine learning could be used to monitor the health and status of space stations, satellites, and space debris, ensuring that all countries involved in space activities have access to critical information. In addition, it could play a key role in the development of sustainable space exploration practices, such as creating systems for space debris removal or efficient resource utilization in space. By pooling knowledge and resources countries can address common challenges and ensure that space remains a domain for peaceful, collaborative exploration.

Ultimately, artificial cognition has the potential to reshape how nations interact in the space sector, creating a more inclusive, cooperative, and sustainable approach to space exploration. By fostering global partnerships and leveraging AI's capabilities, the world can work together to unlock the potential of space, ensuring that its benefits are shared by all and contribute to the advancements of humanity as a whole.

⁶ **Groundbreaking:** Something that is very new and a big change from other things to its type. (Cambridge, 2024).

The Role of AI in Shaping the Future of Space Exploration and Global Stability

Automated intelligence has emerged as a transformative force in the fields of space exploration, with applications ranging from autonomous spacecraft navigation to advanced data analytics. However, as with any revolutionary technology, the rapid advancement of machine technology in the exosphere comes with significant risks that demand careful considerations and regulation. Automatization has an immense potential that could benefit extraterrestrial operations, while being well-used. The development of clear international guidelines and frameworks is essential to ensure it serves peaceful and collaborative purposes in space. Without such regulations, there is a danger that automated technology could become a tool for militarization in the cosmos, used for competition, conflicts and inequality, disrespecting treaties such as the Outer Space Treaty.

The rapid evolving of technology in the searching of the universe also brings forth ethical dilemmas that must be addressed to ensure its responsible use. One of the key concerns is the potential for autonomous systems to make decisions without human oversight, especially in high stakes missions where errors could have catastrophic consequences. The autonomy of AI systems raises questions about accountability, particularly when it comes to military applications or space-based surveillance. As automated intelligence becomes increasingly integrated into cosmos operations, it is crucial to establish robust ethical frameworks that govern on the spot of problem-solving processes, ensuring that human values and international norms are respected. Additionally, the development of machine intelligence must consider the implications for global equity, ensuring that space exploration remains a collaborative endeavor accessible to all nations, rather than becoming a domain controlled by a few technologically advanced states or private multinational corporations.

The United Nations Office for Outer Space Affairs (UNOOSA) has taken significant

steps to address the challenges and opportunities presented by machine learning in space. Through initiatives such as the Space 2030 Agenda and its focus on sustainable development, UNOOSA promotes international collaboration and equitable access to space technologies, including AI-driven systems. The organization also works to ensure the peaceful use of outer space by encouraging compliance with treaties like the Outer Space Treaty and fostering dialogue among nations to prevent militarization. While these efforts lay a strong foundation, further action is needed to establish specific frameworks that regulate autonomous intelligence applications in space, ensuring they contribute to global peace and development.

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Topic B

Measures to promote fair and sustainable utilization of space resources, seeking equitable access, and collaboration among nations to foster global development in the space economy

Introduction

Space is becoming more than just a frontier for exploration; it's shaping up to be the next big economic opportunity. The discovery of resources such as minerals and water found on celestial bodies offers a transformative potential for industries on Earth, ranging from technology to energy. This disparity could deepen existing inequalities between nations, further marginalizing those with fewer resources or technological capabilities. The growing involvement of private companies in space mining adds another layer of complexity, raising questions about who owns these resources and how their use can be managed fairly. Without proper rules in space, there's a risk of monopolization⁷ and environmental damage in outer space.

The challenge lies in achieving a balance between fostering innovation and ensuring inclusivity. As nations and private companies race to claim their share of space resources, it's easy to overlook the broader implications. Failing to address these issues now could lead to long-term consequences that may obstruct global cooperation and sustainable development. Without a shared understanding of how these resources should be managed, the risk of monopolization and conflict grows. At the same time, the environmental impact of space mining is a concern that demands attention. Protecting the astral domain's environment is as important as ensuring that its resources are used responsibly and fairly; since environmental concerns are not just scientific issues but also political ones, and nations may disagree on acceptable practices and standards for space exploration, which could lead to further strain in international relations.

Collaboration is the key to navigating the cosmos. By fostering partnerships between nations and integrating private entities into a global system, we can create a future where the cosmos benefits everyone and not just a selected few. This requires a commitment to

⁷ **Monopolization:** In business, complete control of something, which prevents other people or companies from having influence. (Cambridge, 2024).

transparency, shared responsibility, and sustainable practices. States must contribute by working together with private companies to establish clear guidelines that balance economic ambitions with ethical considerations. By doing so, humanity can build a space economy that prioritizes long-term benefits over the short-term ones. The decisions made will shape not only the economy, but also how humanity approaches shared opportunities and challenges in the next few years.

The Evolution of the Cosmic Resource Utilization and the Need for Fair Management

The idea of utilizing outer reaches resources has evolved since the early days of space exploration. In the 1960s and the 1970s, the space race between the United States of America and the Union of Soviet Socialist Republics (USSR) focused primarily on scientific exploration and geopolitical dominance, with a small importance given to the economic potential of space. However, as technological advancements in space travel and satellite systems progressed, the concept of space as a potential source of valuable resources began to gain traction. At the beginning of the 21st century, with the development of the universe's mining methods, the possibility of extracting minerals, water, and other resources from asteroids and the Moon became a realistic goal, prompting a new era for humanity.

As private companies entered the space race in recent decades, the landscape of space exploration shifted dramatically. Companies like SpaceX, Blue Origin, and others have revolutionized the industry by reducing the cost of space travel and expanding the potential for commercial ventures⁸. This has led to an increased interest in mining, as private entities seek to capitalize on the untapped resources beyond Earth. However, this commercial involvement has raised concerns about who controls these resources and how they should be distributed. The 1967 Outer Space Treaty, signed by over 100 nations, established space as a domain for peaceful purposes and the common heritage of humankind but key players like

⁸ **Commercial ventures:** Involving or relating to the buying of commercial goods. (Collins Dictionary, 2024).

the United States of America (USA) or the People's Republic of China have interpreted its provisions in a different way. The USA, through the 2015 Commercial Space Launch Competitiveness Act, has allowed private companies to claim ownership of extracted resources, a stand that follows the Luxembourg's 2017 space mining laws, which grant private companies the right to own resources extracted from celestial bodies, while the People's Republic of China has pursued lunar exploration programs, sparking fears of unilateral claims to strategic areas on the Moon.

Historically, the cosmos exploration was guided by the principles of peaceful and international cooperation, as seen in the 1967 Outer Space Treaty, signed by over 100 nations, which emphasized the use of the universe for the benefit of all humankind; some key players in shaping the treaty include the United States of America, the Russian Federation, the People's Republic of China and the European Union. However, space resource utilization becomes a more tangible reality, the original framework has shown its limitations. The growing involvement of private companies and the competition for space resources highlight the need for updated regulations that ensure fair access and prevent the exploration of the galaxy for the benefit of a select few. In response, there have been calls for stronger international collaboration and the creation of new agreements that can govern space resource management. The challenge now is to balance innovation with inclusivity, ensuring that space remains a shared resource for all nations, while also protecting the environment and promoting sustainable development. The absence of a clear international legal framework has led to disputes over ownership and the potential for monopolization, with only a few technologically advanced nations and corporations having the means to access and extract these resources.

Challenges in Ensuring Fair and Sustainable Utilization of Space Resources

The rapid development of space mining technologies and the increasing involvement of private companies have created challenges that threaten the equitable use of space resources. One of the most important issues is the lack of a comprehensive international legal framework governing the ownership and utilization of these resources. The Outer Space Treaty does not provide specific guidelines for resource extraction or address the rights of private entities. This has led to conflicting interpretations, with some nations and corporations claims that could exclude others, particularly those from less developed countries.

Another significant challenge is the potential for monopolization by technologically advanced nations and corporations. The high cost of expansive exploration and mining means that only a few have the capacity to access and extract resources, leaving others at a disadvantage. This concentration of power could lead to the exploitation of space resources for the benefit of a privileged few that have the capacity to access and extract materials, leaving others at a disadvantage. This concentration of power could lead to the exploitation for the benefit of a few, exacerbating global inequalities. Additionally, the lack of transparency in the activities of private companies raises concerns about accountability⁹ and the equitable sharing of benefits derived from space resources. Without international oversight, there is a risk that these activities could prioritize profit over fairness and sustainability above everything.

Environmental concerns also pose a critical challenge in the utilization of space resources. The extraction of minerals and water from celestial bodies could have consequences on the balance of astral ecosystems. Mining activities may disrupt surface compositions, release debris, or even alter the orbits of celestial bodies, while the generation of space debris increases collision risks. For example, mining activities could disrupt the surfaces of asteroids or moons, potentially affecting their orbits or stability. Furthermore, the

⁹ **Accountability:** The fact of being responsible for what you do and giving a satisfactory reason for it. (Cambridge, 2024).

generation of space debris from these operations increases the risk of collisions and poses a threat to existing satellites and future missions. Addressing these environmental risks requires a commitment to sustainable practices and the development of technologies that minimize harm to outer space.

The competitive nature of space exploration further complicates the situation, as nations and corporations race to claim resources without fully considering the long-term implications. This *space rush* mentality could lead to conflicts over resource ownership and undermine global cooperation. To prevent these outcomes, it is essential to establish a shared understanding of how orbital resources should be managed. By prioritizing inclusivity, sustainability, and transparency, the international community can address these challenges and ensure that space remains a resource for the benefit of all humankind.

Measures to Achieve Unity in Ultraterrestrial Resource Management

As humanity expands its presence beyond Earth, the growing divide between nations with advanced space programs and those without highlights a need for unity. As more developed countries have more access to more advanced methods, which could imply an advantage in an economic aspect for those countries and private companies, this ends in them dominating the race. This advantage culminates¹⁰ from decades of investment in space infrastructure, particularly by nations such as the USA, and the People's Republic of China, which began prioritizing space exploration during the Cold War. The privatization of space exploration in the early XXI century further widened this gap, as companies leveraged¹¹ significant financial and technological resources to lead the commercial space race. This dynamic traces historical patterns of resource exploitation on Earth, raising concerns that outer space could become

¹⁰ **Culminates:** To have a result of a process (Cambridge, 2024).

¹¹ **Leveraged:** Power to influence people and get the results you want. (Cambridge, 2024).

this cosmic divide that requires a collective work to equity, ensuring that space exploration benefits all of humanity.

The absence of a clear and inclusive legal framework for space resources management has created a void that encourages unilateral actions. Nations and private entities frequently pursue their objectives in space resource activities, which can lead to actions that are not fully aligned with broader international consulting, claiming resources without consulting the broader international community. This behaviour can be traced to the lack of enforceable provisions in agreements like the 1967 Outer Space Treaty, which prohibits sovereignty claims but does not explicitly address resource ownership. Recent initiatives, such as the Artemis Accords, which are a set of non-binding international agreements initiated by the USA in the year 2020, attempt to fill this gap by establishing principles for resource use on the Moon and beyond. This lack of coordination not only undermines¹² global trust but also increases the likelihood of conflicts over resource ownership. Addressing this issue requires a shift in perspective, recognizing that space is not a frontier to be conquered but a shared domain that demands cooperative administration.

Cultural and historical differences among nations complicate efforts to create a unified approach to space resource management. Countries with limited space capabilities may view the ambitions of spacefaring nations with doubt, fearing exclusion from the benefits of exploration. Meanwhile, spacefaring nations may prioritize their own interests over global collaboration. Building trust through dialogue, transparency, and mutual respect is essential to overcoming these divisions and fostering a sense of shared purpose in space exploration. For example, many developing nations argue that existing frameworks favor technologically advanced countries, perpetuating a cycle of exclusion. The Group of 77, a

¹² **Undermines:** To make someone less confident, less powerful, or less likely to succeed. (Cambridge, 2024).

coalition of developing nations has called for stronger international agreements to ensure equitable access to space resources.

The pursuit of unity in space resource management is not just a moral imperative but a practical necessity. Without cooperation, the risks of resource monopolization, environmental degradation, and conflict between states will only grow in an exponential way. By embracing a shared vision for the future of celestial exploration, the international community can transform outer space into a domain of opportunity and progress for all, ensuring that humanity's journey to the stars reflects the values of inclusivity and cooperation. This vision requires concrete steps, such as revising existing treaties, creating new agreements that include all stakeholders and establishing international bodies to oversee resource management. These measures, if implied effectively, could lay the groundwork for a sustainable and equitable space economy.

Building a Shared Vision for Space Governance

The Artemis Accords represent a pivotal moment in the evolution of space governance, but they also highlight the gaps in the current legal framework. While they establish principles for peaceful and cooperative exploration, their non-binding nature and selective participation raise concerns about inclusivity and equity due to their limited capabilities such as the Republic of Burundi and the Republic of Malawi. The specific gaps in the current legal framework include the lack of enforceable mechanisms to regulate resource extraction, the absence of universally accepted rules for property rights in space, and insufficient provisions to address the interests of nations without advanced space programs. Nations that lack advanced space programs may perceive the accords as a tool for wealthier states to consolidate influence over extraterrestrial resources, including water ice, isotopes like helium-3 that are potentially useful for nuclear fission, minerals and so on. This underscores

the urgent need for a universally accepted framework that ensures space exploration as a benefit for humanity.

To address these challenges, international bodies such as the United Nations (UN), the Committee on Space Research (COSPAR), and the International Telecommunication Union (ITU) among others must play a central role in mediating and expanding space governance. The Outer Space Treaty of 1967 laid the foundation for peaceful exploration, but it lacks specific provisions for resource utilization and private sector involvement. Updating this treaty or establishing a new, binding agreement that includes all nations, regardless of technological capability, could prevent monopolization and conflicts inclusive of geopolitical conflicts with territorial disputes or resource wars, economic conflicts with monopolization of resources, technological conflicts with weaponization in space, and so on. Furthermore, integrating the principles of Artemis Accords into a broader, multilateral treaty would enhance their legitimacy and inclusivity.

Ultimately, the success of space governance depends on fostering trust, transparency, and collaboration among all stakeholders, being endorsed by international agreements and treaties, multilateral forums, transparency mechanisms between others . This includes not only nations but also private companies and international organizations. Clear guidelines and enforcement mechanisms must be established to prevent exploitation and ensure environmental sustainability in space. By prioritizing a shared vision for the cosmos, humanity can transform space exploration into a collective endeavor, reflecting values of equity and cooperation for generations to come.

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XXXVIII TECMUN
Glosary of Forbidden Words

Forbidden Words

Defined by the United Nations, are non diplomatic terms participants must avoid to mention during their speeches on the debate and in the writing of resolution projects

Forbidden Words	Permitted equivalent
First world countries	Developed countries
Third world countries	Developing countries
Gay ¹³	Member of the LGBTIQ+ community
War ¹⁴	Belic conflict
Rape	Sexual abuse
Terrorist	Extremist
Kill or murder	Deprive someone of their life
Death	Casualties
Assassination	Homicide
Army	Military forces
Money	Economic resources
Poor	Lack of resources
Okay	Yes or agree
Black ¹⁵	Afrodescendant

¹³ The word Gay is replaced by a more inclusive term, recognizing that not all people within the LGBTIQ+ community identify in the same way.

¹⁴ The word War can be used in order to refer to historical contexts, such as the Cold War, the First World War, etc. It can only be used in the Security Council to refer to armed conflicts.

¹⁵ The word Black, in reference to ethnicity, is not prohibited but it is recommended to limit its use and refer to this sector as a dark-skinned person or afrodescendant as the case may be.

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Glosary for Resolution Projects

Preambulatory Phrases

Preambulatory Phrases are used at the beginning of every Resolution Paper in order to give context about the resolutions made for the topic. Preambulatory Phrases must be written in italics followed by a sentence that gives said context. For each Resolution Paper there must be five sentences beginning with a Preambulatory Phrase.

Affirming	Desiring	Noting with deep concern
Alarmed by	Emphasizing	Noting with satisfaction
Approving	Expecting	Noting further
Bearing in mind	Expressing its appreciation	Observing
Believing	Fulfilling	Reaffirming
Confident	Fully aware	Realizing
Contemplating	Further deploring	Recalling
Convinced	Further recalling	Recognizing
Declaring	Guided by	Referring
Deeply concerned	Having adopted	Seeking
Deeply conscious	Having considered	Taking into consideration
Deeply convinced	Having examined	Taking note
Deeply disturbed	Having received	Viewing with appreciation
Deeply regretting	Keeping in mind	Welcoming

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Glosary for Resolution Projects

Operative Clauses

Operative Clauses are used at the beginning of every resolution within the Resolution Paper on the debated topic. They must be written in italics and bold.

Accepts	Endorses	Notes
Affirms	Draws the attentions	Proclaims
Approves	Emphasizes	Reaffirms
Authorizes	Encourages	Recommends
Calls	Expresses its appreciation	Regrets
Calls upon	Expresses its hope	Reminds
Condemns	Further invites	Requests
Confirms	Further proclaims	Solemnly
Congratulates	Further reminds	Affirms
Considers	Further recommends	Strongly
Declares accordingly	Further requests	condemns
Deplores	Further resolves	Supports
Designates	Has resolved	Takes note of
		Transmits
		Trusts

Personal notes

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