LICEO'S MODEL UNITED NATIONS

Committee on the Peaceful Uses of Outer Space

Topic A: "The Race to Colonize Mars"

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Writer's note:
Welcome delegates! I strongly advise you to carefully read everything that's stated, for this is a special committee, and there are many regulations that will be taken into account when evaluating. Based on what's mentioned here, ensure to investigate further in order to own proper, informative support during the debate. Many thanks and best of luck.
P.S. Do not miss the limits and suggestions and the PP structure!

I. INTRODUCTION

Dearest delegate, you have been assigned no easy task. The next challenges your delegation's about to encounter are drastically influential to our future, whether it'd be positively or negatively. It's your delegation's decisions that will define the path of human civilization, for it's no minor discussion that will take place in the following committee. It's not a matter of just plainly handling the present or coming up with a simplistic solution that goes in harmony with the other delegate's proposals, it goes a lot further than that; it means taking into

consideration the consequences that could generate an unprecedented abyss in the core of our planet, one that no mere human would desire to witness. The following words your delegation will analyze are primarily based on real-life events or ones that will soon take place. This plan is currently being carefully constructed by various countries that aim for safe, technological and economic development, and consequently make adequate use of the results and newest discoveries.

Mars is an incredibly sophisticated planet, yet it has undoubtedly many resemblances to our own planet. It's of utmost importance that your delegation administers the futuristic uses it would like to employ on the treasured lands of this planet, for it's no easy game. Consequently, your delegation will effectively narrow down and clearly emphasize the reason behind this desire to colonize the Red Planet. It's important to take into accountancy beforehand the definition of colonization; it means to establish a country's identity on a surface, it means to demonstrate the power and capabilities one owns, and it means to own entire responsibility on the territory as a whole. Having said this, colonizing territory has no light impact. Although one has the liberty to utilize the land, there are limits that must be considered if unwanted events are purposely evaded.

The purpose of this committee is to plan the perfect mission to peacefully colonize Mars. Considering the dilemmas between countries nowadays, the mission cannot be jeopardized, for it will eventually affect resources and even human lives. Allegiances are necessary, but observe carefully, for there could be betrayal or further conflict. Address the mission without anything negatively influential interfering,

expand your horizons! And always remember, the key objective is to maintain peace.

II. COMMITTEE BACKGROUND

(Note: this is an existent committee that still continues to run in the UN)

The Committee on the Peaceful Uses of Outer Space, also known as COPUOS, works to promote international cooperation for the peaceful and secure utilization of space exploration. With the aid of technological and scientific innovation, the committee aims for sustainable and economic social development. COPUOS was tasked to study and develop space-related programs, as well as consider legal conflicts or damaging consequences that could arise. The committee, though not of great relevance in the UN, plays an important role in transcendental projects, particularly related to scientific and technological evolution.

III. HISTORY OF THE TOPIC

A. Introduction to the topic

In 1994, the National Aeronautics and Space Administration (NASA), officially declared the beginning of the Mars Exploration Program (MEP). The mission aims to conduct a study on this undeniably interesting planet in all its dimensions. It has been discovered that the planet itself provides an idealistic portion of information about the origin of our Solar System, and additionally contains indications of bizarre chemical behavior. Therefore, to follow a structural organization regarding the investigation of Mars' peculiarities, NASA has constructed the following objectives for the mission: life, climate, geology, and humans.

To achieve this investigation, NASA conducted various studies on the Red Planet with the utilization of technologically sophisticated probes. Since 1994, many discoveries have been made, such as the unprecedented existence of water and all kinds of minerals, basic resources that essentially sustain human life. A mission of utmost relevance was one conducted in the year 2020, and still resides on the red planet. Although many inconveniences and delays occurred regarding the global catastrophe our world sustained, NASA barely achieved its launch towards the planet. The mission consisted of a rover named Perseverance to explore profoundly mysteries of the planet. The rover made various discoveries, and also acquired many images for the public. Around the same time, China also released its own rover called Zhurong, similar to the US's Perseverance.

Although many missions arrived successfully, it is historically known that a mission to Mars is commonly a failure. It's important to consider the planet's exceedingly thin atmosphere compared to Earth's. The atmosphere's composition is also significantly different, containing higher levels of carbon dioxide, while Earth's is more nitrogen and oxygen-based. Additionally, Mars's orbit around the Sun is relatively more extended than Earth's, taking approximately twice as long to make a complete orbit (687 days). To arrive safely and quickly on the red planet, the mission must be conducted while the launch window takes place, meaning the perfect time period for a particular mission to be launched. Mars' launch window occurs every 26 months when it's in orbital position with Earth, or when it's relatively closest to the planet. This effectively reduces the amount of time during the

voyage, and permits a safe and mathematically adequate landing.

Taking into consideration the great number of information scientists currently possess about the mysteries of the Red Planet, space agencies are planning to create a transcendental event, something that surpasses the limits of our beliefs: a crewed mission to Mars. The plan currently resides on every scientist's mind, desperately wanting to efficiently arrive at Martian surfaces before the end of this decade. Space agencies around the world are raising as much information as possible about the planet in order to create potential crewed missions to Mars' system. Rover after rover are created and sent to the planet, and space agency's information capacities are beginning to reach its limits.

This, however, must have immense economic support, and to gain so, the project must be accepted by the government and its community. This economic role isn't a public space agency's responsibility; private space or aeronautic agencies, such as SpaceX, Virgin Galactic and Boeing, purchase the resources to construct the necessary technology for an effective and advanced mission conducted by NASA. Some private agencies, particularly Boeing, don't prioritize space exploration. Therefore, it's important to choose space agencies that will focus entirely on the project's success if greater results are desired to be reached.

Another planet means more territory, which also means more opportunities for innovative, futuristic projects and drastic growth in the economy. Territory isn't a light topic of discussion, for it contains uncontrollable forces of power. He

that obtains Martian territory isn't someone that can be taken lightly, for he has achieved something that breaks history's barriers.

The desire to potentially arrive at another planet of the Solar System besides ours officially marks the beginning of a new space era. One question now remains: **Who will arrive first?**

B. Relevant events that will soon take place

The ExoMars Mission

This program, led by the European Space Agency (ESA) along with a **collaboration** between many countries, was designed to scavenge the possible existence of life on Mars. The mission was divided into two launches: the first one being the Trace Gas Orbiter, and the second one compromising a rover on the planet's surface. The second part of the mission particularly consists of a rover with incredibly advanced technology provided by many worldwide agencies, such as the Organic Molecule Analyzer (MOMA). The machine is secured inside the rover and currently works with the support of the German Aerospace Agency (DLR) and NASA. With this machine, scientists will be able to carefully study chemical compounds found on Mars' soil, and possibly acquire potential information about life's origin, evolution, and distribution on the Red Planet. Considering scientists have already discovered the existence of water and other necessary substances to sustain life on the planet, the possibility of biological components on the planet is such.

The Mars sample return campaign

Even if space agencies have shown immense technological improvement by sending probes and orbiters to

the Red Planet, scientists are unable to physically study Mars' components because there isn't yet any technology capable of returning samples on its own. The discoveries are primarily based on the rover's findings and the manner it employs them or dismantles their composition. Hence, the Mars sample return campaign strives to make the effort to bring Martian samples and soil back to Earth, where they will be studied in unprecedented detail with the support of incredible, investigative capabilities scientists possess. This will be possible with an ascent vehicle, which uses liquid oxides of nitrogen and paraffin fuel to exit Mars' atmosphere and reach an orbiter. This is currently being developed.

IV. CURRENT ISSUES

A. Panorama

Globally, various space agencies have given their part in the development of Martian missions. As previously mentioned, various projects have taken place, and were all made possible with collaborative participation. Public space agencies, especially those with immense wealth and experience, have acquired an unprecedented amount of information about the Red Planet, though there is yet a lot more to discover. Each space agency owns authentic capabilities and resources, which allow them to progressively get closer to the surface of Mars. Additionally, agencies own distinct goals in mind, taking into account their intentions regarding the planet's colonization, influencing the overall plan to peacefully reach Martian surface.

B. Points of view

National Aeronautics and Space Administration (NASA) 🇺🇸

(Note: if your delegation represents this space agency, you possess astounding power. Use it adequately!)

This well-known, public space agency has developed a strategic plan to properly understand the Red Planet's components. As previously mentioned, NASA organized their investigation into four scientific goals: life, climate, geology, and humans. Additionally, the space agency constructed a timeline for particular projects to take place, in order to enhance the journey to reach their sophisticated objectives. Some of the most relevant missions within the timeline are the rovers, such as Curiosity and Perseverance. On the other hand, orbiters have been sent by NASA as well, all that will facilitate Martian supply transportation and human access to the planet. With the support of all these technological advances, NASA aims to acquire as much as information to plan a crewed mission in the near future.

China National Space Administration (CNSA) 🇨🇳

China has achieved drastic advances regarding Mars exploration. The country is well known for its great scientific development, becoming the US's number one competitor, the two main faces of the new space race. In the past, CNSA has achieved lots of historical breaking endeavors However, they are advancing with such incredible speed. Recently, particularly in 2020, CNSA conducted a highly sophisticated mission known as the Tianwen 1, which consisted of a spacecraft that contained a solar-powered rover called the Zhurong. This mission marked the first combined orbiting, landing and roving in a single launch. By the year 2028, CNSA aims to physically study Martian samples; this mission is known as the Tianwen 3.

One particular goal of utmost importance for china is international cooperation, stating they “wish to partner with more space agencies, space companies, space companies, and all kinds of other entitles”.

Roscosmos 🇷🇺

Russia is known to have contributed immensely to the exploration of the Red Planet. Regarding the ExoMars mission, in 2016, Russia signed an agreement with the European Space Agency, which declared official collaborative work to seek signs of life on the planet. However, Russia’s reputation entered a sudden decline this year, considering it current situation with Ukraine. Just months before the launch of a robotic mission, the European Space Agency decide to cut the contract with Roscosmos. Because it has been highly immersed in conflict, Russia also forcefully put into an end other important missions.

United Arab Emirates Space Agency (UAESA) 🇦🇪

The United Arab Emirates built a program known as The Emirates Mars Mission. Their most significant project was the Hope Probe in 2021, which’s aim was to obtain the atmosphere’s layers and composition. Based on that, the Emirates will be able to identify the reason behind the atmosphere changing behaviors, specifically the loss of hydrogen and oxygen into space in the spam of one Martian year. Something indispensable that the UAESA achieved in this mission was a collaboration with Japan in 2020; with their aid, UAESA was able to successfully launch the mission.

Indian Space Research Organization (ISRO) 🇮🇳

India, though currently bearing major economic conflicts, has been able to support the Mars exploration program. One of its most essential missions was the Mars Orbiter Mission, also known as MOM. It launched in March 2013 and made it into orbit around 10 months later, which marked an enormous achievement within the space agency, considering many international attempts of such mission were commonly a failure. The orbiter was designed to endure for approximately 60 months. However, it surprisingly lasted longer than expected. Recently, after 8 years in space, the orbiter lost communication during a solar eclipse in April 2022, something the orbiter wasn't designed to survive.

V. UN & EXTERNAL ACTIONS

A. UN

Efforts to maintain peaceful exploration isn't something new. In 1957, just as space exploration marked its commencement, the United Nations established regulations to promote peaceful and safe usage of space, especially prohibiting the use of space for military and destructive purposes. COPUOS has created a treaty known as the "Outer Space Treaty" that provides the basic framework for international space law. Nowadays, these agreements are still of utmost importance to avoid any malicious, space-related actions that could create international tension and destruction.

B. External actions

SpaceX

This private space agency coordinates its objectives based on a particular motto: Humanity will become a

multiplanetary civilization. Having said so, their first destination is logically the Red Planet, considering its relative proximity and resemblances to Earth. The agency has aided in the development of Mars' investigation, providing advanced resources to successfully master needed missions. In total, SpaceX has conducted 36 launches, 33 visits to the ISS (International Space Station), and 15 reflown missions. Given this data, evidence suggests that NASA relies immensely on SpaceX, though it has also worked with other entitles. SpaceX basically resurrected NASA's missions; about 9 years passed without any advanced, crewed missions. In 2020, SpaceX abruptly surged and took over, supporting space exploration like no one has before.

Massachusetts Institute of Technology (MIT)

Besides space agencies, universities have also contributed to these transcendental projects. For instance, the University of Massachusetts took part in a mission that defined the likely possibility for human life sustainability int the planet's surface. Within the Perseverance rover, the MIT constructed a miniature machine called the MOXIE. Despite its size, its functions are miraculous; the machine gathers a portion of hydrogen scattered in Mars' atmosphere, and converts it into oxygen. This will determine our next step to create a crewed mission without risking the passengers of suffocation to death.

VI. CONCLUSION

"One small step for men, one giant leap for mankind," said Neil Armstrong, the first human to set foot on a different surface other than our planet's. Those words were stated the exact moment Armstrong made his first step on the Moon's surface, a transcendental moment no human could have ever

imagined back then. We as humans possess an overly ambitious mindset that completely dominates our actions. Consequently, we own this desperate impulse within ourselves that forcefully pushes us to surpass what we thought were our limits. We can achieve anything that comes our way if we believe in ourselves and we work hard enough to successfully get relatively exquisite results. However, this emerges unexpected conflicts that are difficult to dismantle, conflicts that come as side effects because of our cunning personality.

Peace is what undeniably all humanly human desires, but because we want everything, competition overwhelms us. We want what we think will benefit us the most, what will charge that impulse that allows us to go further. But that is exactly what everybody fights for at the same time, causing distress and war. To reach Mars is a project everyone strives to obtain, a project that will give us access to many opportunities in the future. To evade war and conflict between countries, there must be a strategic way to colonize this planet, whether it be collaboratively or not. Sooner or later, someone will be recognized transcendentally for having achieved such an incredible goal, one that we also thought initially impossible. However, what will happen next? Who will possess such power? How will it be used?

VII. IMPORTANT QUESTIONS

- Why colonize Mars? More importantly, why is your country willing to do it?
- What consequences will these utterly advance decisions have? How will they impact society?

- Is your delegation capable of achieving this ambitious objective alone? Will it provide technical and economic support to others? How will your country take part?
- Does your country have competition? If so, how will your delegation cope with it peacefully?
- Do we have sufficient information to plan a crewed mission? Will there be lives at stake?
- Will society agree with these kinds of decisions? Are space agencies investing properly and thinking also about their home planet? Does your space agency possess enough economic resources?
- After establishing ourselves on the Red Planet, what will happen next? Will our human instinct drive us even further? How so?
- Based on what your space agency has achieved so far on its own, how can it incorporate its discoveries into an international plan to properly colonize Mars?

VIII. LIMITS AND SUGGESTIONS

This is a special committee that comes with lots of responsibilities. Creativity is strongly encouraged, but with the next factors taken into consideration:

- Analyze the information that has already been acquired about the planet. Is it enough to send humans out there? Otherwise, more scientific and technological projects must take place.
- Your delegation represents a PUBLIC space agency, not a private one. If your delegation mentions innovators such as Elon Musk, make sure to specify the space agency they control. If your delegation wishes to make use of their resources, there must

be a permit, make sure your space agency has it. Universities and aeronautical agencies may also be mentioned.

- Investigate the current space race and notice who has more control. If your country isn't very advanced with space exploration, seek the aid of those with experience and see how your delegation can support them. Every country has something to give, don't feel weak!
- Which countries are your delegation's enemies? How will your delegation cope with them to achieve a successful mission? First, address the relationship, then see how collaborative work can take place.
- Please be realistic. Although this is a futuristic council, the colonization of the Red Planet will truly take place in the near future. Therefore, it's crucial to take into account the progress space agencies have today, and afterward, your delegation is free to be creative based on the technology that already exists.
- If your delegation is very well-informed about technology and mechanics, innovation will give you points!
- INVESTIGATE PLEASE. The debate has to be under control and rich with valid information. What laws does your country have regarding space exploration? Does the government approve?
- Is your space agency already participating in a union? If so, with whom?
- Inspire your plan based on already existing projects from various space agencies.

- Enjoy the experience!!!

IX. POSITION PAPER STRUCTURE

Introduction: Find a way to captivate your audience's attention by stating something unique to introduce the topic. Some examples could be to emphasize the importance of this mission or give examples of inspirational experiences within the space industry.

Body Paragraph: Explain a brief history of space programs your space agency has conducted or situations in which your space agency has collaborated with others. Additionally, state your space agency's objectives and how the organization works to reach its goals.

Conclusion: Here, demonstrate your space agency's ambition and capacity to collaborate in this extraordinary mission. You must state ways in which your space agency could support the project, whether it'd be economically, technologically, etc. This is the most important part of your PP, be creative and realistic!

X. RESOURCES

United Nations Office for Outer Space Affairs. (n.d.). UNOOSA. Retrieved October 25, 2022, from https://www.unoosa.org/

Human Space Flight. (n.d.). SpaceX. Retrieved November 15, 2022, from https://www.spacex.com/vehicles/dragon/

Outer Space. (n.d.). United Nations. Retrieved November 15, 2022, from https://www.un.org/disarmament/topics/outerspace/

O'Kane, C. (2022, October 5). *India's Mars Orbiter Mission has ended after 8 years. It was designed to only have a 6-month lifespan*. CBS News. https://www.cbsnews.com/news/india-mars-orbiter-mission-mom-ended-after-eight-years-space-research/

Emirates Mars Mission. (n.d.). UAE Space Agency. Retrieved November 16, 2022, from https://www.emiratesmarsmission.ae/

nytimes.com. (2022, July 12). https://www.nytimes.com/2022/07/12/world/esa-russia-mars-mission.html

Jones, A. (2022, September 22). *China's Tianwen-1 Mars mission wins international space award*. Space.com. https://www.space.com/china-tianwen-1-mars-mission-wins-award

ExoMars: ESA and Roscosmos set for Mars missions. (n.d.). https://www.esa.int/Science_Exploration/Space_Science/ExoMars_ESA_and_Roscosmos_set_for_Mars_missions

Mars Exploration Program. (n.d.). NASA. Retrieved November 16, 2022, from https://mars.nasa.gov/#red_planet/1

With Perseverance, MIT teams prepare for Mars rover landing. (2021, February 17). MIT News | Massachusetts Institute of Technology. https://news.mit.edu/2021/perseverance-rover-moxie-0217

The Reality of Investing in Space Exploration. (2022, September 1). Investopedia. https://www.investopedia.com/financial-edge/0712/the-reality-of-investing-in-space-exploration.aspx