BLGMUN'25

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1-Welcome Letters

a.Letter from the Secretary General

Dear Delegates,
It is my greatest pleasure to welcome you all to BLGMUN'25, the first official MUN of our school. My name is Serra Yırtıcı and I'm the Secretary General of the BLGMUN'25. I'm an 11'th grader at Özel Artı Fen Bilgi High Schools.

I would like to take this opportunity to express my sincere gratitude to the Under-Secretary Generals of this committee: Irem Kılıç and Özge Özçelik and the Head of Crisis: Burak Demetgül for their exceptional efforts.

Our USGs have been instrumental in building the academic foundation of the committee, their research, creativity, and dedication brought our vision for the crisis committee to life and BLGMUN'25 to a different level. I can confidently say that the combination of İrem's enthusiastic, ambitious, and energetic attitude with Özge's smart, tranquil, and dedicated attitude will create a charming atmosphere on the committee.
Additionally, our Head of Crises: Burak Demetgül has gone above and beyond to design and manage the crises of this committee with his team to ensure that all the delegates will have an unforgettable experience.

So I can assure you, you're lucky to be on our FCC committee. I have no doubt that you will enjoy your time in and out of sessions. I'm looking forward to hearing about all of your remarkable negotiations and creative solutions on the committee.

I wish you all the best.

Sincerely

Serra Yırtıcı

b.Letter from the USGs

Dear Delegates,

I am İrem Kılıç, one of the Under-Secretary Generals of the FCC committee at BLGMUN'25. I am a 10th grade student at Bilgi Fen High School, and it is an honor to welcome you to our FCC committee at our first MUN, BLGMUN'25.

First of all, I would like to express my gratitude to our esteemed Secretary General, Serra Yırtıcı, for her leadership, support, and endless help and guidance; to our other Under-Secretary General, Özge Özçelik, for her hard work and for being such a spectacular and cooperative team member; and finally, to our Head of Crisis, Burak Demetgül, whose invaluable ideas, creativity,

and contributions to the direction of the committee and BLGMUN'25 have made a significant impact.

MUN has always played a significant and important role in my life. I am excited to rediscover the knowledge and experiences I earned along the way, this time from a different perspective. Throughout my MUN career, I have worked continuously to share these experiences with you, and I am convinced that this journey, the result of our collective efforts, will bring you to the most unique MUN experience.

We are here to spark interest in space and create unique discussions and working environments on the topics we have selected for the committee. We hope that the guide we have carefully chosen will illuminate your path and serve as a guiding light. Space, with its infinite expanse, has always been a source of curiosity for humanity, with unique endless boundaries set for exploration. Missions, projects, and crises that can be combined with your imagination are waiting for you. I am eagerly looking forward to hearing and seeing your innovative ideas and different points of view.

Best Regards,

İrem KILIÇ

Dear Delegates,

I am Özge Özçelik, I am the Under-Secretary-General of the FCC committee you have joined. I think you will have fun and gain benefits at BLGMUN'25 that we have prepared for you. I am a 10th-grade student at Bilgi Anatolian High School. We would be happy to see and host you in the FCC committee.

It was a great honor and a great experience to work with Secretary General, Serra Yırtıcı, who ensured that the preparation process of the committee was properly planned and worked. We would like to express our endless gratitude to the Head of Crisis, Burak Demetgül, for the interesting and entertaining crisis ideas he developed for our e-comite.

I would like to thank the Under-Secretary-General of our committee, İrem Kılıç, for her patient support and help, and for being with me throughout this process.

When I met MUN in the 9th grade, I felt that this field was very suitable and exciting for my cognitive structure and I realized that I had to be a part of this organization in some way. As I participated in MUN events, I realized that each experience added new political, cultural, and universal information to me. Being a part of these processes was both exciting and an incredible experience for me. I would like to express my deepest gratitude to my dear friend and other Under-Secretary-General İrem Kılıç, who introduced me to MUN in the first stage. We have prepared the necessary conditions for this experience to be flawless and exciting for you. I hope you have an experience you will never forget. We are eagerly waiting for your ideas and comments about our content.

Thank you.

Özge Özçelik

2-Introduction to the Committee

a.History of the Crisis Committee

Crisis Committees have been part of Model UN conferences since the late 1990s. The first committees began in large conferences in the United States and later spread to MUN organizations worldwide. While the UN does not have formal "crisis committees," the Model UN simulation of crisis committees began emerging lately, allowing delegates to engage in unpredictable scenarios that reflect the complexities of real-world crises. These committees spread features in MUN conferences worldwide, providing participants with an opportunity to develop their problem-solving and creative thinking skills in urgent situations.

b.Introduction to the F-CC

Futuristic Crisis Committees stand apart from regular GA committees and Crisis Committees, as they require delegates to make quick decisions and respond to issues instantly in an ever-evolving scenario. A Futuristic Crisis Committee in Model UN is a decision-making body with more power than traditional committees, characterized by its dynamic and fast-paced nature. Each delegate or country plays an influential role, facing urgent, impactful events in a speculative future. Future events are unpredictable, with crises constantly evolving, adding both clarity and complexity to the scenario. This defines a Futuristic Crisis Committee, as it pushes delegates to adapt and develop innovative strategies aligned with the agenda. Delegates are encouraged to explore creative solutions, utilizing either personal or national powers to influence outcomes. Decisions made in a Futuristic Crisis Committee can have significant ramifications for the imagined world whether positive or negative. For instance, an international crisis could emerge at any moment, and swift action is crucial to prevent further escalation, highlighting the importance of multidimensional thinking. Futuristic Crisis Committees bring excitement to a conference, especially for delegates in critical decision-making roles. The philosophy behind a Model UN Futuristic Crisis scenario is to enhance creativity and rapid-response skills, providing delegates with a unique and challenging environment for growth.

3-Introduction To The First Agenda Item

a. Introduction of the Topic A: Colonization Beyond Earth

Colonization beyond Earth has always represented a complex and ambitious goal, motivating humanity to strive for achievement throughout history. It offers exciting possibilities for human advancement in the cosmos; however, it also presents significant scientific, logistical, ethical, economic, and political challenges for nations. There are limited options for humans to live comfortably in space, but this has not deterred pioneers from exploring potential solutions, with

various ongoing projects that may lead to positive outcomes. While it may seem straightforward to discuss colonization, it is essential to recognize the challenges posed by space conditions, including economic viability, environmental concerns, and the need for adaptation**.**

b.History of the Topic

The use of colonial territories for space launch sites began in the early days of the Space Age, primarily during the 1940s and 1950s. These usages were critical for launching satellites and observing the planets, setting a precedent for strategic global positioning in space endeavors. Space exploration has ancient roots, and its effects, both positive and negative, are still visible today. Past conflicts are seen as indicators of future challenges, which countries take into account. Space has always sparked human curiosity, representing an endless journey filled with mysteries. What once started as an exploration of the unknown has now evolved into a path toward escaping Earth's limited resources and striving for success. For instance:

The RAAF Woomera Range Complex(WRC)1946: The Woomera Range Complex is a major Australian military and civil aerospace facility and operation located in South Australia. It was originally present in 1946 and was a joint British Australian project in order to test rockets and missiles. Later it became a launch area for space missions. The Woomera Restricted Airspace(WRX) is also controlled by the RAAF for safety and security issues during space endeavors.

Guiana Space Centre 1964: Is a European spaceport located near Kourou in French Guiana, a French territory in South America. The territory was a former penal colony, The Devil's Island, which operated between the years of 1853 to 1953 but since 1964 France has taken over its control and has been supervising French Guiana to establish a space center. Eventually developed by France and became an international station with the investments and assistance of the European Space Agency (ESA) in the 1970s. It was primarily focused on launching European rockets, as well as others. Launch vehicles. The Guiana Space Centre was one of the busiest and most important launch sites for global commercial and governmental satellite deployments. In 2017, protests at the Guiana Space Centre in Kourou, French Guiana, were sparked by local issues like poor economic conditions, high unemployment, and lack of infrastructure. Protesters highlighted the contrast between the spaceport's global importance and the struggles of the local community. The protests led to a blockade, halting space launches for weeks. In response, the French government promised to provide financial aid to improve living conditions in the region.

Mauna Kea: Mauna Kea has been the site of an ongoing war between Hawaiian land defenders and emperor forces. The protest at Mauna Kea, a sacred Hawaiian site, is rooted in colonial history that began with the 1893 overthrow of the Hawaiian Kingdom by the United

States. The Native Hawaiian resistance against the Thirty Meter Telescope (TMT) is more than a localized issue as a part of a broader fight for cultural and political sovereignty. In 2014, the conflict intensified when activists blocked the construction road, preventing the start of the telescope's construction. This movement challenges the use of space exploration as a tool of imperialism, underlining the defacement of local cultures in the search for scientific progress. The activists view the TMT as a symbol of Western colonialism, as it is being built on land that holds deep cultural and spiritual significance. The resistance is also a rejection of the normalization of newcomer colonialism, where Western values are imposed through the construction of infrastructures like telescopes.

The Outer Space Treaty 1967: The Outer Space Treaty (OST), established in 1967, was negotiated under the United Nations and entered into force on October 10, 1967. As of 2024, 115 countries, including major spacefaring nations, are parties, with 22 others having signed but not ratified it. The treaty aims to prevent the militarization of space and asserts that space is the "province of all mankind." It promotes space as a shared resource for peaceful exploration and prohibits any nation from claiming sovereignty over celestial bodies. The OST serves as the cornerstone of international space law, promoting the peaceful and cooperative use of outer space. The Outer Space Treaty forms the foundation for international cooperation in space exploration. It states that the exploration and use of outer space, including the Moon and other planetary bodies, must benefit all countries and serve the common good. Space is accessible for exploration by all states equally, with freedom for scientific research. The treaty also forbids any nation from claiming sovereignty over space territories, ensuring that no country can appropriate space through occupation or other means. Furthermore, it requires that all space activities adhere to international law, especially in maintaining peace and security and fostering peaceful cooperation and mutual understanding.

Apollo 11 Mission: The Faith of the Beginning 1969: The Apollo 11 mission marked the first time humanity successfully landed on the Moon. It was a crewed lunar landing operated by NASA and launched on July 16, 1969, from the Kennedy Space Center. The crew included Neil A. Armstrong as the Commander, Michael Collins as the Command Module Pilot, and Edwin E. Aldrin Jr. as the Lunar Module Pilot. Their efforts were inseparable and invaluable in ensuring the first succession steps of the mission. Apollo 11 effectively demonstrated U.S. superiority in spaceflight, fulfilling President John F. Kennedy's goal of landing a man on the Moon and safely returning him to Earth before the end of the 1960s. Armstrong's first step on the lunar surface on July 21, 1969, was broadcast live on television to a worldwide audience. His famous words, "That's one small step for a man, one giant leap for mankind," became legendary in space history. The Apollo 11 mission had a profound impact on the development of space exploration technology, particularly in several key areas. By demonstrating the feasibility of advanced new systems, it proved critical for future missions and humanity's aspirations beyond Earth. Key technological advancements included:

Computer and Navigation Systems: The mission showcased the capabilities of spacecraft computers, which were crucial for guiding astronauts through complex lunar landings.

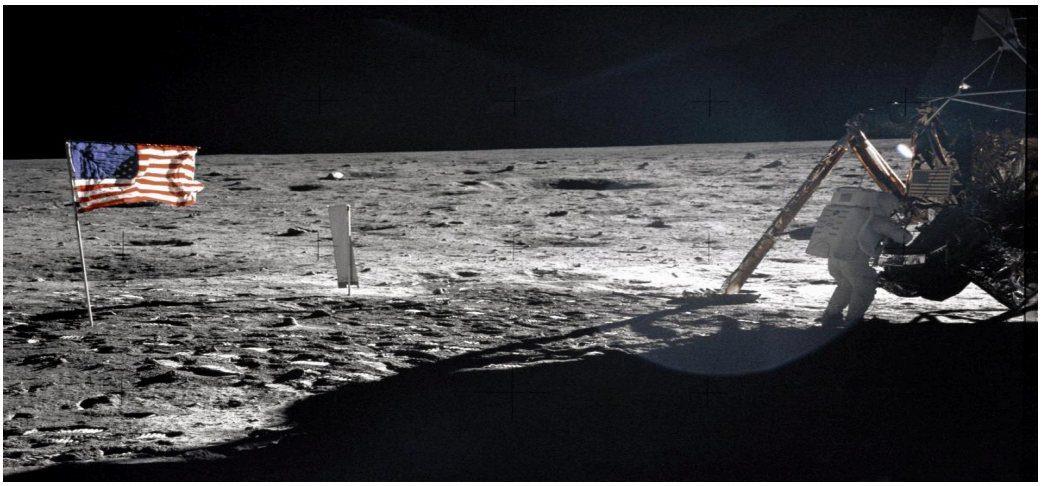
Scientific Instruments and Data Collection: Apollo 11's scientific experiments and data collection on the Moon provided valuable insights into the lunar surface and space environments.

Developed Communication Systems: New communication technologies enabled clear and reliable communication between the spacecraft, the astronauts, and Earth.

Space Suits and Life Support Systems: The mission also advanced the design of space suits and life support systems, ensuring astronauts could survive and work in the harsh environment of space and the Moon.

Spinoff Technologies: Many technologies developed during the Apollo program have since been applied in other fields, from medicine to materials science.

The success of Apollo 11 inspired future generations of scientists, engineers, and astronauts. It set a precedent for human space exploration and demonstrated that ambitious goals could be achieved through innovation and collaboration. This legacy continues to drive advancements in space technology and exploration today.



Apollo 11 commander Neil Armstrong working at an equipment storage area on the lunar module.Armstrong during the moonwalk.

The International Space Station (ISS)1998: It represents not just scientific and engineering success, but also the spirit of global cooperation, dedication, and the never-ending search for knowledge. In his 1984 State of the Union address, President Ronald Reagan approved NASA to build an international space station within the next ten years, beginning the ISS's journey. By emphasizing space's enormous potential for trade, exploration, and scientific growth, he established the foundation for what would later become a worldwide commitment.

The first key milestone occurred in 1998, when the Zarya Control Module, the first module of the ISS, was launched. Zarya provided the spacecraft with critical capabilities including landing, battery power, and fuel storage. Congress recognized the U.S. portion of the ISS as the nation's newest National Laboratory, opening doors for other government organizations, universities, and private businesses to take advantage of the station’s unique capabilities. The ISS's capacity to carry out microgravity research was greatly enhanced with the addition of two more research modules: the Columbus Laboratory from the European Space Agency. It expanded the situation to be able to start managing experiments in space. Over the years ISS played a critical role in the investigation of space exploration technologies and long-term human-populated space travels. It has served as a testing surface for space habitats, life support systems, and other technology required for upcoming deep space missions, especially those to the Moon and Mars.

Blue Origin: It is a private aerospace company founded by Jeff Bezos in 2000. Its goal is to make space travel more convenient and accessible, enabling humanity's future missions for lunar and Mars exploration and establishing sustainable human habitats in space, eventually making it routine for millions of people...

Blue Origin is committed to reducing the cost of access to space, with the long-term goal of making Mars exploration feasible. The company’s mission is to increase access to space by developing reusable launch vehicles and in-space systems that are safe, cost-effective, and meet the needs of civil, commercial, and defense customers. Blue Origin also produces reusable liquid rocket engines, which are essential for their launch vehicles and other space systems. Reusability is a core principle for Blue Origin, as it helps lower the cost of space access by significantly reducing waste and increasing asset utilization. Both New Shepard and New Glenn are designed with reusability in mind, reinforcing the company’s commitment to sustainable space exploration.

The Cold War(1947): The Cold War began after tensions had been building since the end of World War II. in 1945, primarily between the United States and the Soviet Union, along with their allies. It was a long period of tension and chase that was largely diplomatic and economic, rather than involving direct military conflict. The Cold War had the potential for devastating consequences, but it mostly unfolded in the form of a "limited" struggle through indirect conflicts, and political strategies. The fight began at the end of World War II. During the 1945 Yalta and Potsdam Conferences, Allied leaders attempted to shape Europe's postwar future. However, conflicts erupted soon, particularly in Eastern Europe regions. The Soviet Union began installing communist regimes in Poland, Hungary, and East Germany, which the West interpreted as a violation of accords providing free elections. The origins of the Cold War are deeply rooted in the aftermath of Nazi Germany's surrender in 1945. After the war, the United Allies, namely the United States, Great Britain, and the Soviet Union, began to grow apart rapidly, as their political ideologies and strategic interests turned aside. It was not a traditional war, but rather an intense struggle driven by participating ideologies, capitalism and democracy on the one side and communism on the other. This conflict had a global impact with serious

political, economic, and military implications. Around 1946, tensions had risen enormously. In his famous "Iron Curtain" speech, Winston Churchill warned of the Soviet Union's expansionist goal and urged a united Western reaction.

The United States took decisive action. In 1947, the Truman Doctrine committed American backing for communist and resisting countries, while the Marshall Plan provided billions of dollars in economic help to rebuild Western Europe and prevent Soviet influence from increasing. The Truman Doctrine was established by US President Harry S. Truman in 1947 and stood as representative of an enormous shift in American foreign policy. This ideology said that the United States would provide political, military, and economic support to democratic states facing external or domestic authoritarian challenges. It represented the beginning of a global strong strategy during the Cold War to contain Soviet influence. After World War II, ties between the US and the Soviet Union rapidly got worse as the Soviets increased their influence in Eastern Europe. In 1947, Britain, dealing with economic difficulties, decided that it could no longer assist the communist uprising in Greece or continue to send help to Türkiye. The situation pushed the United States to step in and fill the authority imbalance. The US worried that the Soviet Union was helping communist forces in Greece and presenting a strategic danger to the Middle East. Concerns were made worse by Soviet pressure on Turkey and involvement in Iran, which fueled fears of growing influence. On March 12, 1947, President Truman asked Congress for $400 million in aid for Greece and Turkey. Truman warned that a communist win in Greece would bring down Turkey and the Middle East, threatening both US national security and international peace.

In a speech at Harvard University on June 5 in 1947, US Secretary of State George C. Marshall outlined the concept. He advocated for a coordinated European strategy, backed by US assistance, to restore the continent's violated economies. The plan was motivated by the urgent necessity to fight communist growth, especially after the severe winter of 1946-1947 got worse on the topic of Europe's financial difficulties. The Marshall Plan, officially known as the European Recovery Program, was a key United States project started in the aftermath of World War II to support Western Europe's economic recovery. It addressed the continent's serious economic issues while fighting communism's growing influence. Following World War II, Europe was realistically devastated, with ruined economies, food shortages, and rising unemployment rates. Western Europe's fragile economy exposed it to Soviet influence and internal communist movements. The Soviet Union, having set its control over Eastern Europe, was viewed as an important danger to Western Europe's stability, forcing the United States to step in. In March 1948, the United States Congress passed the Economic Cooperation Act, which authorized more than $12 billion in aid to Western Europe. The money was allocated across industries to rebuild facilities, stabilize currencies, and promote trade. Eastern European countries and the Soviet Union were invited to participate but declined, as Joseph Stalin saw the program as a danger to his authoritarianism and a tool of US economic supremacy.

The Berlin Airlift (1948-1949) was a milestone incident in the early Cold War, demonstrating the wellness of Western Allies to fight Soviet aggression and maintain democracy in Europe. This event emerged from geopolitical tensions following World War II and had profound implications for the global order. Following World War II, Germany was divided into

four occupation zones, each governed by the US, UK, France, and the Soviet Union. Berlin, despite its location deep within the Soviet-controlled zone of eastern Germany district, was divided among the four nations. As tensions developed between the Western Allies and the Soviet Union, their visions of postwar Germany disagreed. While the Western Allies wanted to reconstruct Germany's economy, the Soviets aimed to keep the country weak and under their influence.

U.S. Navy and Air Force aircrafts unload at Tempelhof Airport during the Berlin Airlift. (U.S. Air Force)

A significant turning point in the early Cold War was the Berlin Airlift (1948–1949), which demonstrated the Western Allies' determination to combat Soviet aggression and protect European freedom. The event had a lasting impact on the world order and resulted from the geopolitical tensions that followed World War II. The United States, the United Kingdom, France, and the Soviet Union occupied four areas of Germany following World War II. Berlin was similarly split between the four countries, even though it was situated deep within the eastern German territory under Soviet authority. Their ideas for postwar Germany diverged as hostilities between the Soviet Union and the Western Allies increased. The Soviets wanted to maintain Germany's economic weakness while the Western Allies strove to restore it. In response to the blockade, the United States and the United Kingdom began a large airlift operation to provide West Berlin with crucial supplies. The airlift, known as "Operation Vittles" in the United States and "Operation Plainfare" in the United Kingdom, proved to be a spectacular logistical achievement. At its peak, aircraft landed at Tempelhof Airport in West Berlin every 45 seconds, transporting millions of tons of supplies like food, coal, and medicine. To maintain the operation, new airfields were built, and more aircraft and men were deployed. Over time, the airlift became more efficient, proving the Western Allies' ability to continue the effort forever.

Throughout the crisis, Western officials found a peaceful solution. The Soviets proposed removing the blockade in exchange for the removal of the newly adopted Deutsche Mark

currency from West Berlin, but their offer was refused. Meanwhile, the residents of West Berlin reacted in support of the airlift and the Western Allies, with a strong demonstration in September 1948 expressing their resistance to Soviet dominance. On May 11, 1949, the Soviet Union lifted the blockade, admitting that their approach had failed. The airlift, however, was extended until September 1949 in order to stabilize West Berlin and create reserves. The Berlin Airlift was a turning point in the Cold War. It strengthened Europe's divisions by establishing NATO (North Atlantic Treaty Organızation) in April 1949 and West Germany in May 1949, followed by East Germany. The Berlin Airlift established Berlin as a symbol of democracy and resistance to communist rule. It also proved the US and its allies' commitment to defending threatened democratic nations and opposing Soviet expansionism. This incident not only reinforced transnational relationships but also demonstrated Western nations' willingness to defend their freedom in the face of dictatorial threats.

The North Atlantic Treaty Organization (NATO) was founded in 1949 by the United States, Canada, and many Western European countries to guarantee collective protection against the Soviet Union. Following the devastation of World War II, NATO addressed the need for economic recovery and mutual defense to resist communism's growing influence in Eastern Europe. The Marshall Plan had already promoted economic cooperation between the United States and Europe, but events such as the Greek Civil War, Soviet-backed coups in Eastern Europe, and the Berlin Blockade demonstrated the need for a formal military alliance. The 1948 Brussels Treaty established the groundwork for Western European states' collective defense. Following the Vandenberg Resolution, which encouraged the United States to pursue a security treaty with Europe, discussions resulted in the signing of the North Atlantic Treaty. The pact stated that any armed attack on one member would be considered an attack on all, establishing the notion of collective defense. To strengthen this relationship, the United States established the Mutual Defense Assistance Program, which allocated $1.4 billion for Western European military aid. The outbreak of the Korean War in 1950 boosted NATO's attempts to integrate and coordinate its defensive forces. The alliance grew with the additions of Greece and Turkey in 1952 and West Germany in 1955, forcing the Soviet Union to organize the Warsaw Pact in retaliation.NATO not only protected Western Europe under the American nuclear umbrella, but it also established itself as a long-standing bedrock of collective security. NATO has survived beyond the Cold War, expanding to include former Soviet states and being the world's greatest peacetime military alliance.

Signing of the NATO Treaty

The Korean War (1950-1953) was an important turning point in the Cold War, representing the first major armed combat between communist and capitalist forces in the post-World War II era. The war's causes, course, and effects had a significant impact on Cold War dynamics, raising tensions and influencing world geopolitics. Following World War II, Korea was separated along the 38th parallel and became a Cold War flashpoint. The North,

backed by the Soviet Union and later China, was communist, whilst the South, backed by the United States, was anti-communist. North Korean forces invaded South Korea on June 25, 1950, with Soviet approval. The United States and its allies intervened through the United Nations, seeing the attack as a direct challenge to the containment policy. The Korean War turned the Cold War into a worldwide, armed battle. Both the United States and the Soviet Union began extensively arming themselves and their allies, sparking an arms race and increasing defense spending. The United States broadened its containment strategy from Europe to Asia, displaying a commitment to halting the development of communism globally. This change resulted in the development of alliances such as SEATO (Southeast Asia Treaty Organization) and an increased military presence in the Pacific. China's participation in support of North Korea cemented its status as a significant communist state and Cold War participant.

The battle deepened the gap between the Eastern and Western blocs. It strengthened Korea's partition into two different governments, laying the groundwork for indirect conflict in countries such as Vietnam and Afghanistan. The war demonstrated the necessity for a stronger NATO. Western European states increased rearmament, and West Germany's membership in NATO became a priority, escalating the Cold War conflict. The Korean War established a precedent for Cold War battles in which superpowers avoided a direct battle and instead fought in simulated conflicts in external countries. The Korean War was a historic event in the Cold War, highlighting the ideological and military split between the Soviet communist bloc and the United States Western alliance. It emphasized the Cold War's global stakes and ensured that the conflict would continue as a long-term, armed fight for global control. The 1953 agreement separated Korea, which remains a symbol of Cold War tensions today. The Cold War ended due to a combination of internal weaknesses within the Soviet Union, the rise of reform movements in Eastern Europe, and strategic diplomacy by Western powers. Its conclusion marked a shift from a bipolar world dominated by two superpowers to a more complex global landscape, with the United States emerging as the sole superpower. This period of transformation also ushered in new challenges and opportunities for international relations in the post-Cold War era.

c. Main Events

c.1. Depletion of Earth's Resources and Population Growth

The reduction of world resources and population growth pose a serious threat at the global level. While the world's population is growing rapidly, this is leading to more demand for food, energy, and water. The Earth is facing a serious crisis due to rapidly depleting natural resources and uncontrolled population growth. These two fundamental issues threaten both ecosystems and human life, creating significant obstacles to a sustainable future. This depletion has prompted the search for alternative habitats for humanity. The world has undergone great change in the last few centuries. Rapid developments, technological advances, and globalization that started with the Industrial Revolution have profoundly affected people's lifestyles. However, this rapid progress has also brought with it significant problems. Chief among these are global problems such as depletion of world resources and population growth. These two factors cause natural resources to be consumed faster and create more pressure, disrupting the environmental balance.

The world is a planet with limited natural resources, and these resources are rapidly consumed by humanity. Natural resources such as fossil fuels, water resources, forests, and soils are increasingly depleted as a result of human activities such as industry, agriculture, and energy production. Fossil fuels meet most of the world's energy needs, but the depletion of these energy sources and their environmental impacts are one of the biggest obstacles to a sustainable future.

The use of fossil fuels increases carbon dioxide (CO2) levels in the atmosphere, leading to environmental problems such as climate change and global warming. Moreover, these energy resources are not unlimited and they will inevitably run out one day. This situation makes the necessity of finding alternative sources for energy production even more important. Approximately 71% of the Earth's surface is covered with water, but only 2.5% of this water is freshwater, most of which is trapped in glaciers. With increasing population and industrialization, the pressure on freshwater resources also increases. Water scarcity poses a major threat to drinking water supply and agriculture, especially in arid regions.

In a period when the world population is rapidly increasing, the demand for agricultural land has also increased. However, wrong agricultural practices, excessive use of fertilizers, and deforestation reduce the fertility of the soil and accelerate soil erosion. This situation threatens food production and disrupts the ecosystem balance.

The world population has increased rapidly in the last century. The quadrupling of the population in the 20th century put great pressure on resources. Today, the world population is approaching 8 billion, with approximately 80 million more people being added each year. Although this rapid population growth, on the one hand, provides opportunities for workforce and economic growth, on the other hand, it accelerates the depletion of resources and further deepens environmental problems.

- Food Need: As the population increases, the need for food production also increases. However, the land used for food production is limited and if sustainable agricultural methods are not implemented, food security may be threatened. Additionally, water, energy, and land resources used during food production are limited.

- Energy Consumption: Increasing population also leads to increasing energy demand. While energy demand increases rapidly with industrialization in developing countries, dependence on fossil fuels continues. This situation causes environmental damage and accelerates the depletion of resources.

The relationship between population growth and resource depletion creates a mutually reinforcing cycle. While increasing population brings with it more consumption, this consumption also leads to rapid depletion of natural resources. The depletion of resources causes greater environmental problems, namely crises such as climate change, biodiversity loss, and ecosystem degradation.

c. 2. Elon Musk's Mars Colony Project(Game Plan)

Elon Musk's Mars project is one of SpaceX's top goals and is central to Musk's vision of space exploration and colonization. Musk aims to make manned trips to Mars possible and establish a sustainable life there. In response to these global challenges, Elon Musk has developed a groundbreaking project. With the goal of relocating one million people to Mars by 2050, the project aims to establish a sustainable human presence on another planet. This initiative is not only a technical milestone but also a means to secure the future of humanity. The formation process of Elon Musk's Mars project began with the development of SpaceX in 2002. First, Falcon rockets air with the goal of making space volume more affordable. The reusability of these rockets was an important step towards achieving the goal of sending humans to Mars.

In 2016, SpaceX started the design of the Starship rocket that will carry people to Mars. Starship is a fully reusable rocket and is planned to be capable of carrying 100 passengers. In 2019-2021, prototypes of the rocket were produced and tested in Boca Chica, Texas.

The necessary engineering structures were provided for test flights, for the rocket to move in the atmosphere and to reach Mars. This process is a step toward transforming SpaceX's outlook for establishing a permanent human colony on Mars.

c.3. Mars as a Suitable Habitat for Life

The habitability level of Mars is a choice that has been researched by scientists and space agents for many years. Since Mars is one of the closest planets to Earth, it stands out as a potential second home for humanity.

Elon Musk notes that the Mars launch target is not just insurance against disasters, but also part of humanity's long-term evolutionary journey. For this reason, he argues that a colony established on Mars must initially create self-sufficient, sustainable living conditions. Musk thinks that water vapor and underground water resources on Mars are critical for life support systems. In addition, attention is being paid to expanding the structures to make the soil structure of the planet workable to be able to do agriculture on Mars. Despite all these difficulties, Musk envisions the development of Starship as an important tool to send people to Mars and provide the opportunity to build living spaces.

To date, no conclusive evidence of past or present life has been found on Mars. Cumulative evidence suggests that the surface environment of Mars during the ancient Noachian period had liquid water and may have been habitable for microorganisms, but habitable conditions do not necessarily indicate life.

Scientific investigations into the existence of life began in the 19th century and continue today through telescopic examinations and implanted soundings; looking for chemical biomarkers in water, soil, and rocks on the planet's surface, and biomarker gases in the atmosphere. Mars is of particular interest for the study of the origins of life due to its similarity to early Earth.

The discovery of organic compounds within sedimentary rocks and boron on Mars is intriguing as they are precursors of prebiotic chemistry. Such findings, together with previous discoveries that liquid water was present on ancient Mars, further support the possible early habitability of Gale Crater on Mars.

c.4. Transportation to Mars with Starship

SpaceX's Starship vehicle is a huge, fully reusable rocket and spacecraft designed to go into space and send people to Mars. Starship is critical to realizing Elon Musk's goal of manned travel to Mars. To facilitate the transportation of people and materials to Mars, Elon Musk has developed the Starship rockets. Musk announced that these rockets would begin carrying payloads to Mars in 2025. This process marks the first significant step toward a comprehensive settlement on Mars and demonstrates technological advancement. This process requires significant planning, not only in terms of travel but also in terms of establishing life on Mars. Larger, more efficient, and safer spaceships will be needed to transport a large mass of people and necessary materials to Mars. These ships must be much more capable, fuel efficient, and capable of traveling at high speeds. Ships used to travel to Mars will have to carry not only people but also many items such as materials, equipment, and life support systems.

Ships like SpaceX's Starship are among the most advanced rocket designs to carry humans to Mars. This type of ship could be capable of carrying hundreds of people. Starship also promises to reduce costs by being reusable.

A type of energy is used that allows spaceships to move at speeds close to the speed of light. Such energy systems offer a faster and more efficient journey. For example, engines powered by nuclear fusion energy can enable ships to reach Mars in a much shorter time. This type of technology improves fuel efficiency and significantly reduces travel time.

Life support systems (oxygen production, water purification, food supply, psychological health) of people who will move to Mars will be extremely important.

Spaceships will be equipped with closed environmental ecosystems. These systems are designed to provide essential life resources such as oxygen, water, and food for people and equipment.

Additionally, efforts are being made to protect factors such as cosmic radiation and microgravity during the journey. Thick, heavy materials or magnetic field technologies can be used for radiation shielding.

The journey could take 6-9 months (with rockets available today). However, as technologies develop to shorten this time, the journey can become much faster. Spaceships must make multiple trips to transport a very large human colony to Mars. This transportation process can be managed as follows:

The first human settlements will be transported along with the materials needed to establish life on Mars. This process begins with the first few spaceship expeditions to Mars. Basic needs such as astronauts, food, water, and energy systems are carried out every time.

The frequency of these expeditions is adjusted depending on Mars' position in its orbit and the distance between Mars and Earth.

c.5. Selection of Participants for the Colony

The selection of one million people to join the Mars colony is one of the project's most debated and crucial aspects. Questions such as which countries participants will be selected from, what professions they will represent, and what roles they will take on require international consensus.

The colony is expected to consist of individuals from various professional groups, including construction workers, engineers, and administrative personnel.

Elon Musk's Mars project aims to enable humanity to take a step into space and establish a new colony. This project holds great importance in the selection of those who will settle on Mars, as the planet offers harsh environmental conditions and limited resources. The colony requires expertise in various fields such as engineering, medicine, and agriculture, but equally important is the participants' resilience. Those chosen must be capable of handling isolation, stress, and challenges on Mars while being able to work harmoniously within a group and solve problems effectively. Furthermore, these individuals must accept a long-term mission and contribute to creating a sustainable living structure, both individually and collectively.

In this context, not only technical skills but also personal qualities should be considered on the path to Mars. Extended isolation and limited social interactions will create a constant pressure environment. The ability to think under stress, resolve conflicts, and adapt to group dynamics will be crucial for the colony's survival and success. Additionally, the ability to manage technological challenges and ensure resource efficiency will be essential. Colonists facing these challenges will also carry the mission of building a new society on Mars and creating a new living space for humanity. Therefore, they must possess not only technical knowledge but also a deep sense.

c.6. International Cooperation and Governance

The Mars colony project necessitates international collaboration. To organize the participation of one million people and determine their roles, it is proposed that an international committee be established.

While the United States is poised to take a leading role as the founding nation, other key players like China and India are also expected to have significant involvement. In this context, developing a fair model of distribution and governance is of paramount importance.

International cooperation and governance are critical to the success of a colony on Mars. Establishing a sustainable life on a distant planet like Mars is too big a project to be possible with the efforts of just one country or institution. Therefore, different countries and the private sector must cooperate. Sharing resources, combining technological advances, and sharing expertise can make the project more efficient and cost-effective. Additionally, establishing a colony on Mars would require reshaping international law. A strong international governance model should be established to regulate issues such as the management of the colony, sharing of underground resources, and environmental protection. This is not only a scientific effort, but also a global responsibility, and will be an important step towards creating a new living space for all humanity.

International cooperation and governance are vital for a colony on Mars. Establishing life in a harsh environment like Mars is not a goal that can be achieved by the power of a single country or institution. Therefore, worldwide cooperation is required. Different countries and the private sector can contribute to this project by combining resources, technologies, and expertise. In addition, since establishing a colony on Mars will raise many legal and ethical issues, it is essential to develop an international governance model. This model should provide a framework to regulate issues such as fair sharing of resources on Mars, environmental responsibilities, and living standards. International cooperation and effective governance will ensure not only survival on Mars but also long-term sustainability.

Elon Musk's Mars project is made possible not only by the efforts of SpaceX but also by the material and moral support of many national and international institutions. While NASA supports SpaceX's technological development and research on Mars, private sector companies, especially large technology companies such as Tesla and Boeing, contribute to the project by providing the necessary engineering solutions and financing. In addition, prestigious universities and research institutions conduct scientific research on the sustainability of life on Mars and provide important data. International organizations such as the United Nations play a guiding role in ethical, environmental, and legal regulations regarding settlement on Mars. The contributions of all these institutions help make the goal of establishing a permanent human settlement on Mars a reality.

d. Summary

The depletion of Earth's resources and the rapid increase in human population are gradually threatening the future of humanity. This situation has inspired Elon Musk to initiate a project aimed at establishing a colony of one million people on Mars by 2050. Mars was chosen for this mission due to the presence of water, with characteristics similar to the water reserves found beneath the ice sheets of Greenland and Antarctica.

Speaking at Vox Media's Code Conference, Elon Musk announced that transportation to Mars would begin in 2025 using the Starship rocket. However, a key question remains regarding the selection criteria for the one million individuals who will join the colony, including their countries of origin and assigned roles. While the United States is considered the leading

candidate for governance as the founding nation, other significant players in the space race, such as China and India, are also likely to play a role. The establishment of this colony will require skilled labor, administrative personnel, and engineers. To address this matter, it is proposed that an international committee be formed to determine the distribution of participants among nations and their respective responsibilities.

e. Major Diplomats

1. UNITED STATES OF AMERICA: DONALD TRUMP

During his presidency, Trump took many steps to strengthen NASA's space program. By signing the Space Policy Directive-1 in 2017, aimed for America to organize human missions to Mars. This meant supporting SpaceX and Elon Musk's Mars goals. Trump considered sending humans to Mars as one of NASA's long-term goals.

However, Trump's approach to SpaceX and Elon Musk in these policies was generally in line with America's national space program, while also allowing the private sector to be active in this field. Trump has frequently expressed his appreciation for Musk's accomplishments in the private sector and the advances SpaceX has achieved. Trump frequently praised SpaceX and Elon Musk for their success in the private sector. In particular, achievements such as the successful launches of the Falcon 9 rocket and the deliveries of the Dragon capsule to the International Space Station were evaluated positively by Trump. Trump emphasized that such achievements increase America's space power and reinforce America's leadership in this field by collaborating with the private sector. For example, in a meeting with Elon Musk in 2018, Trump celebrated SpaceX's success and described Musk as an important leader of the space industry. Trump evaluated Musk's achievements as critical for national security and America's space policy.

During Trump's presidency, he argued that NASA should cooperate with SpaceX on a manned mission to Mars. SpaceX has been recognized as an important partner for carrying NASA's payloads and working on projects to send humans to Mars. Trump believed that NASA and the private sector working together would enable major projects such as a journey to Mars to be accomplished more quickly and efficiently. Trump argued that the private sector should be more involved in projects such as space exploration and settling on Mars, and believed that such projects should no longer be undertaken by the state alone. Innovative technologies and private sector resources of companies such as Elon Musk and SpaceX can ease the state's burden in this area. Trump has been very open-minded about the active role of the private sector in space exploration and has generally supported Musk's projects. While Musk plays a complementary role to NASA, he also creates a worldwide impact with projects such as space tourism, space colonization, and travel to Mars.

2. RUSSIAN FEDERATION: VLADIMIR PUTIN

Putin is a leader who has a very strong stance on space exploration and is constantly trying to strengthen Russia's space program. However, Elon Musk has important opinions and comments

about Mars projects. Historical achievements such as Putin, Russia's space agency Roscosmos,*, and Soyuz rockets are an indication of the importance Putin attaches to space exploration. Russia has a long history of manned space programs, and Putin is working hard to continue this tradition.

When we evaluate Putin's general views on space exploration and the role of the private sector in space, it is possible to understand what approach he might have to Musk's projects. Although Putin advocates a strong role for the state in space exploration, he also accepts that the private sector should contribute to the space industry. SpaceX and Elon Musk attract attention as important players in the private sector's space research. Musk's projects such as reusable rockets and space tourism have taken important steps towards transforming the space industry. We see that Putin, while strengthening Roscosmos, Russia's space agency, also supports investing in the private sector. For example, Russia also has plans to invest in reusable rocket technologies

3. CHINA: Xi JINPING

China continues to invest heavily in space research, and in this context, it is known what China's stance is on space technology and Mars exploration. Under Xi Jinping's leadership, China's space program has gained great momentum. China has rapidly advanced space exploration through the China National Space Administration (CNSA) and has taken important steps in Mars exploration in recent years.

China has started sending robotic exploration vehicles to Mars and successfully sent the robotic exploration vehicle Zhurong to Mars with the Tianwen-1 mission in 2021. This was a major milestone in China's Mars exploration. Although China is more cautious about its plans for manned missions to Mars, it is moving forward with goals such as sending robots to Mars and collecting data from Mars. China aims to gain independence in space by establishing its own space station (Tiangong). This is a strategy aimed at strengthening China's dominance in space and its role in space exploration. China is trying to establish a permanent presence in space and lead in new areas such as space tourism.

Under the leadership of Xi Jinping, China's space program is pursuing a strategy to compete with private companies such as America's NASA and SpaceX.

China is very ambitious in space exploration to Mars and other planets, and in this context, it carefully monitors private sector-led projects such as SpaceX. Elon Musk and SpaceX have made great progress in projects such as reusable rocket technologies and human travel to Mars. China evaluates such projects from a competitive perspective. China's space program has a state-supported and centralized structure. This may differentiate China's approach to projects such as space exploration and travel to Mars. Musk's projects are private sector-based. China constructively monitors such private-sector projects.

China aims to be a strong player in the space race. The influence of the private sector in space exploration, led by Musk's SpaceX, means both opportunity and competition for China. Xi

Jinping's government continues to make major investments to increase China's space technology and exploration capacity.

4. ENGLAND: RISHI SUNAK

Before becoming prime minister, Rishi Sunak served as Britain's finance minister. Although it does not have many direct policies regarding the space sector, it has made statements several times in the past about supporting the UK's space industry. The UK aims to invest in developing the space economy and aims to support and collaborate with large private sector projects such as SpaceX, rather than competing with them.

Sunak's government policies to grow the UK's space industry include investing in space tourism, satellite technology, and space exploration. In the 2020s, the UK aimed to increase commercial activities in space and invest in space launch systems.

Rishi Sunak is a leader who has advocated that the UK's space economy should grow and technological innovation should be supported. In this context, projects such as Elon Musk's SpaceX projects and sending humans to Mars are of great importance not only in terms of space exploration but also in terms of space technology and industry. While SpaceX is trying to revolutionize areas such as reusable rockets and Mars projects, it is possible to say that the UK follows these developments closely and is open to cooperation opportunities. Rishi Sunak may be appreciating SpaceX's achievements and Elon Musk's vision for the UK's bid to become a strong player in space. Musk's projects such as establishing colonies on Mars and space tourism are seen as an important reference in terms of further expanding the UK's space industry and exploring technological innovation opportunities.

The UK's space strategy generally focuses on areas such as sustainable space exploration, collaborations with commercial space companies, space technology development, and international space exploration. Although Rishi Sunak's statements about projects such as sending people to Mars are limited, we can say that the UK's interest in projects such as SpaceX's Mars projects is positive, in line with the UK's goal of gaining more independence in space and increasing cooperation with the private sector. The UK may choose to collaborate with organizations such as NASA and SpaceX on projects such as sending humans to Mars. The UK is expected to aim to develop its own space industry by collaborating with emerging sectors in areas such as space exploration and space tourism.

5. FRANCE: EMMANUEL MACRON

France invests heavily in space research and is taking important steps in space exploration together with the European Space Agency (ESA). France's space strategy is based on scientific discoveries, commercial space technologies, and international cooperation. Emmanuel Macron has taken an approach to growing France's space industry and investing more in space research.

Macron aims to maintain France's leadership in space independence and advanced space technologies.

France's Space Strategy: Macron aims to further strengthen France's space program. Within the framework of the French Space Strategy in 2019, the French government is committed to further investments in areas such as space defense, satellite systems, and commercial cooperation in space. Additionally, issues such as safety in space and combating space debris are an important part of French space policies. Macron aimed to strengthen Europe's space industry and international collaborations in projects such as Mars exploration by establishing strong relations with France's ESA. Although SpaceX is a US-based company, France and Europe may prioritize collaborating on missions to Mars and other space exploration.

Elon Musk's projects, such as manned travel to Mars and establishing colonies on Mars, attract great interest worldwide and are trying to revolutionize space exploration. However, the space policies of France and Europe have a structure that is state-supported and based on international cooperation. For this reason, Macron's approach to SpaceX and Elon Musk's projects is more of an attitude that considers the balance between cooperation and competition. Macron defends Europe's independence in space research and a strong space program. While Europe cooperates with private sector companies such as NASA and SpaceX, it also wants to strengthen its own space programs. In this context, Musk's Mars projects may progress in parallel with Europe's space ambitions, but Europe is taking a more cautious approach to space exploration and colonization.

France may be open to collaborating with private sector companies such as SpaceX. SpaceX's developments can proceed in harmony with Europe's space strategies, especially in areas such as reusable rocket technologies, space tourism, and travel to Mars. However, since France's space policies are generally more centralized and state-oriented, cooperation with private sector projects such as SpaceX is made taking into account France's national interests. One of the most important emphases in Macron's space policies is that France and Europe gain independence in space. This includes topics such as space exploration and safety in space. Musk's SpaceX projects are mostly directed by the American government and the private sector, and it is emphasized that France and Europe need to develop their own space infrastructure. By defending Europe's space independence, France aims to lead in unique space projects and security in space. Cooperation with SpaceX on projects such as the journey to Mars is carefully planned in line with the national interests of France and Europe.

6.INDIA: NARENDRA MODI

Under Narendra Modi's rule, India is giving great importance to space exploration. India has undertaken major projects such as space exploration and Mars through ISRO satellite technologies. India's space policy reflects a grand vision regarding climatic conditions and technological advancements. ISRO and Mars Exploration: India has taken important steps

towards Mars loss and has been one of the first to send the first successful Mars feeder with projects such as the Mars Orbiter Mission (Mangalyaan). India aims to conduct human flights to Mars and scientific investigations in space to have a greater say in space. India has huge growth potential in space technologies and space trade. India aims to become an important player in the space economy by strengthening the space industry internationally.

India has an indirect interest in private sector services such as SpaceX and Elon Musk's Mars projects. However, India's space policy is generally of a state-sponsored nature, with space disruption and advancements in space technologies generally achieved through ISRO. India aims to ensure range in space and develop indigenous technologies. Therefore, while India is collaborating with private sector projects such as SpaceX, it is also strengthening its own space infrastructure. India has shown interest in major projects for Mars and has managed to send a successful expedition to Mars with the Mars Orbiter Mission called Mangalyaan.

India aims to take important steps in Mars exploration and scientific research in space. India may consider the potential of collaborating with SpaceX's Mars projects. In addition, ISRO keeps organizing manned missions to Mars among its long-term goals.

7.EGYPT: ABDDÜLFETTAH EL-SISI

Abdülfettah El-Sisi is taking strategic steps to strengthen Egypt's space sector. Egypt attaches great importance to space research and strives to develop space technologies. In 2019, Egypt's space program was made more institutional by establishing the Egyptian Space Agency (EGSA). Egypt's space strategy covers different areas such as scientific research, satellite technologies, space security, and trade in space. Egypt aims to make progress, especially in satellite technologies. This strategy also indirectly increases interest in major projects such as Mars exploration.

Egypt aims to gain independence in space and develop its own space technologies. In line with this goal, one of Egypt's priorities is to achieve sovereignty in space and develop space technologies with domestic production. Elon Musk's SpaceX projects have big goals such as reusable rockets, space tourism, and travel to Mars. These projects attract great interest worldwide and aim to revolutionize space exploration. Egypt is interested in such projects. Egypt may have taken a cautious approach to projects such as a journey to Mars. However, it may be open to international cooperation on Mars exploration and space scientific research. These collaborations can be made with private sector companies such as SpaceX. Instead of directly participating in SpaceX's projects such as Mars projects and space tourism, Egypt may choose to cooperate in these projects. While SpaceX's technologies aim to create major innovations in projects such as traveling to Mars, space technologies and innovative solutions may also be interesting for Egypt.

As a country aiming to gain independence in space, Egypt can develop innovative solutions to contribute to SpaceX's Mars projects and space technologies. However, in line with its goals of

space independence and producing indigenous technology, Egypt's space strategy will generally be more state-supported.

8. AUSTRALIA: ANTHONY ALBANESE

Australia has started to invest heavily in space research and space technologies and is following projects of private sector companies such as SpaceX. Additionally, the Australian Space Agency (ASA) is actively working to develop the country's space program. Before becoming prime minister, Anthony Albanese, as leader of the Australian Labor Party, advocated the growth of the space industry and increased scientific research. The Australian Space Agency (ASA) was established in 2018 and aims to make the country's space industry stronger at the international level.

Australia's space strategy aims for greater cooperation in space exploration, space technologies, and the space industry. In this context, projects such as Elon Musk's SpaceX projects and the journey to Mars are important issues for Australia. Albanese is an open-minded leader in growing Australia's space economy and investing in space exploration. In particular, issues such as space tourism, space technologies, and trade in space are important opportunities for Australia.

Australia's space program encourages collaboration with private sector companies such as NASA and SpaceX. As a company that has achieved great success in areas such as reusable rockets and space tourism, SpaceX also plays an important role in Australia's space strategies. Major projects such as the journey to Mars offer opportunities not only for scientific discovery but also for space economics and technological advancement. It takes a more cautious approach to projects such as Australia's Mars exploration and manned missions to Mars. However, Australia may be closer to scientific exploration projects, such as sending robotic rovers to Mars and collecting data from Mars. It could encourage collaboration on SpaceX and Mars projects, but Australia's own goal of strengthening space exploration and space infrastructure will also be a key priority.

9. SOUTH KOREA: YOON SUK-YEOL

South Korea has taken important steps in the fields of space technologies and space exploration, especially in recent years. The Korean Space Agency (KARI) has made progress in satellite launches and space exploration. In addition, South Korea's lunar research projects are also on the agenda, and studies are being carried out towards larger goals such as traveling to Mars. Yoon Suk Yeol is a leader who cares about technology and scientific progress. In this context, it considers the steps taken in the field of space exploration and technologies, such as SpaceX's Mars project, as a new opportunity for the future of South Korea. South Korea, under the leadership of Yoon Suk Yeol, has a strong vision for technological innovation and global competition in space.

Initiatives such as Elon Musk's SpaceX and Mars projects could be inspiring for South Korea's space exploration. South Korea aims to cooperate more in space and develop unique technologies. Although South Korea has not yet announced any concrete plans for major goals such as a journey to Mars, it has a clear desire and potential for space exploration and scientific research. Yoon Suk Yeol closely follows SpaceX's Mars settlement projects and facilitates international cooperation with such projects. Under Yoon Suk Yeol's leadership, South Korea attaches importance to promoting international collaborations and inclusive projects.
Participating in global projects such as SpaceX's Mars projects will increase South Korea's space exploration capacity. This can create opportunities to share scientific knowledge and technology by collaborating in space.

10. GERMANY: OLAF SCHOLZ

The Chancellor of Germany, frequently emphasizes the importance Germany places on the space sector and space research. Germany is an active player in space exploration and space technologies through institutions such as the European Space Agency (ESA) and the German Aerospace Center (DLR). Germany's space policy aims to promote international collaborations in various fields, including scientific research, the space industry, and space security. Germany is investing in projects that support trade and technological progress in space. In this context, SpaceX and Elon Musk's projects could present a significant opportunity for Germany, as Germany’s space strategy is based on innovative technologies and international cooperation.

Germany is pursuing independence in space and aims to enhance Europe’s space capabilities. However, Germany may appreciate the successes of private sector companies like SpaceX and prefer to collaborate with them. While Germany is making significant investments in space research and space technologies, strengthening its own space infrastructure and achieving independence in space remain key priorities.SpaceX plays a major leadership role in projects like the journey to Mars and space commerce. Germany could contribute to SpaceX's projects with innovative solutions and collaboration. However, in line with Germany’s goal of achieving space sovereignty, it could continue to support its space industry while also contributing to SpaceX’s projects.

Although Scholz has not made direct criticism or explicit support statements regarding Elon Musk’s Mars projects, Germany’s space strategies focus on topics like the space economy and space commerce. In this context, SpaceX's Mars projects could present opportunities for Germany. Under Scholz's leadership, Germany is likely to support international collaborations aimed at strengthening its space industry and space research.
Aligned with Germany’s goals of gaining independence in space and developing space technologies, collaboration with SpaceX presents significant opportunities to contribute to projects like the journey to Mars and space exploration.

11. SAUDI ARABIA: Mohammed bin SALMAN

Mohammed bin Salman was born as the eldest of six children of Prince Salman bin Abdulaziz and his third wife, Fahda bint Felah al-Heslin. After earning a law degree from King Saud University, he worked as an advisor to his father. Salman ascended to the throne in 2015 and appointed his nephew, Interior Minister Mohammed bin Nayef al-Saud, as the crown prince, while his own son, Mohammed bin Salman, was appointed as deputy crown prince and minister of defense. In 2017, King Salman removed Mohammed bin Nayef from office and made Mohammed bin Salman the crown prince. In 2022, he was appointed as the prime minister.

Bin Salman adopted a reform rhetoric aimed at rebranding the regime's image both domestically and internationally. These reforms included measures such as lifting the ban on women drivers in June 2018 and weakening the male guardianship system in August 2019, which limited the powers of the religious police and improved women's rights. Other cultural developments during his reign include the first public concerts of a female singer in Saudi Arabia, the opening of the first Saudi sports stadium accepting women, an increasing presence of women in the workforce, and the introduction of an e-visa system to open the country to international tourists, allowing online visa applications and issuance. The Saudi Vision 2030 program aims to diversify the country's economy by investing in non-oil sectors, including technology and tourism.

Saudi Arabia's interest in space exploration and technology has particularly increased in recent years. Mohammed bin Salman is striving to make the country more technology and innovation-focused as part of Saudi Arabia's Vision 2030. In this vision, areas like space technologies, renewable energy, and innovation are given high priority. Saudi Arabia is investing in various projects to develop its own space program. For example, the Saudi Space Agency (SAAS) is collaborating with large state-owned companies such as Aramco to invest in space projects. Additionally, in 2019, Saudi Arabia sent its first female astronaut to space. This reflects the country's growing focus on space research.

12.TÜRKİYE: RECEP TAYYIP ERDOĞAN

Born on February 26, 1954, in Istanbul, Recep Tayyip Erdoğan is originally from Rize. He graduated from Kasımpaşa Piyale Primary School in 1965 and from Istanbul Imam Hatip High School in 1973. After passing supplementary courses, he also received a diploma from Eyüp High School. He attended Marmara University's Faculty of Economic and Administrative Sciences and graduated in 1981. Between 1969 and 1982, he was involved in amateur football. During these years, as a young idealist, he also began to engage with local issues and social problems, stepping into active politics.

On August 14, 2001, along with his friends, he founded the Justice and Development Party (AK Party) and was elected the Founding Chairman by the Founding Council of the AK Party. The people's support and trust quickly made the AK Party the largest political movement in Turkey in its first year, and in the 2002 general elections, the party won a parliamentary majority with nearly two-thirds of the votes (363 members of parliament), bringing Erdoğan to power alone.

On Sunday, August 10, 2014, for the first time in Turkish political history, he was elected as the 12th President through direct votes from the people in the first round. After the constitutional amendment accepted in the April 16, 2017 referendum, which allowed the president to be a member of a political party, Erdoğan was re-elected as the leader of the AK Party on May 21, 2017, during the 3rd Extraordinary Grand Congress. On Sunday, June 24, 2018, in the presidential elections, he was re-elected as president with 52.59% of the vote. Following the constitutional amendment on April 16, 2017, and the introduction of the Presidential Government System, he took the oath of office as the first president under the new system on July 9, 2018.

Türkiye has been making major investments in space research and space technologies in recent years. In 2020, the Turkish Space Agency (TUA) was established and Turkey's space program gained momentum. President Erdogan announced his goal of making Turkey's first domestic and national satellite by 2023 and announced plans to go to the Moon in 2023. This shows Turkey's strong interest in its goal in the space field.

It is possible that Erdoğan focuses more on Turkey's space goals and attaches importance to national projects. For this reason, Erdogan and Turkey's space program have the potential to cooperate in international space projects, but priority is given to local and national projects.

f. Questions to be Concerned

1-Considering the possibility of a conflict between countries for the colony that will go to Mars, what will be the diplomatic consequences of this situation?

2-Considering that the number decided for the colony to go to Mars does not include all the people of the world, what kind of persuasion policy should be applied for the people who will stay on Earth?

3-How can materials be provided for the buildings and roads to be built to create the necessary shelter areas for the colonies to be established on Mars? Can it be said that materials that can be transported from the world will be sufficient?

4-What could be the consequences of the amount of water initially deemed sufficient for the colony becoming contaminated or endangering its adequacy over time, and what are the methods to deal with these?

5-Which country should create a social constitution to solve the problems that the mass of the colony will experience in terms of administration, law, and social life, or should a temporary government be established, including all countries, to create a common constitution?

6-Should appropriate prison conditions be created for people who will be punished in case of problems or criminal situations that may arise between the people selected from the member countries that form the union for the Mars colony?

7- Would it be a rational solution to create a local currency to ensure the economic sustainability of social life within the established Mars colony?

4-Introduction to the Second Agenda Item

a. Introduction of Topic B: Sustainable Colonization in Space

The establishment of life in space and its full implementation has always been a desire and ambition for humanity. However, after the depletion of Earth's resources, space colonization must now be approached in a thoughtful and sustainable manner to avoid repeating the mistakes made centuries ago. Scientists, while developing new technologies for space exploration and conditions, also contributed to advancements on Earth. Now, with the limited time left on Earth, strategic use of resources has begun, and selected groups have rapidly started working in their respective fields. In the beginning, special production technologies and seeds were developed to meet up to 60% of the population's needs for sustaining agriculture on Mars. Meanwhile, advanced technologies and teamwork on Earth led to the detailed exploration of mineral deposits. To normalize human life in space, trade, which initially began with space travel, has now taken on a new dimension. These efforts are being continued on Mars by specialized human groups, facilitated through Elon Musk’s Game Plan project. The goal is to make a mark on a new era and save humanity from extinction. Initiators such as Elon Musk, initially known as a business tycoon, play an important role in Earth. In this context, we will address issues related to sustainable living in space and explore innovative solutions to minimize these problems, ultimately outlining a roadmap for saving Earth.

b.History of The Topic

Mars research began in the 1960s. Initially, humanity faced several problems such as insufficient technology, unsuitable locations, and the difficulty of reaching an unknown destination. Numerous unsuccessful attempts were made, including:

Mars 1960A and Mars 1960B: These were the Soviet Union's first scheduled missions in 1960. Both missions failed to reach their objectives due to faults during launch and later.

Mars 1: In 1962, the Soviet Union launched Mars 1, one of the earliest spacecraft designed to reach Mars. However, during its approach to Mars in 1963, transmission was lost due to problems with communication.

Mariner 4: Mariner 4, launched on November 28 1964, from Cape Kennedy Air Force Station on an Atlas-Agena D rocket, was the first spacecraft to conduct a flyby of Mars. The mission's goal was to take images and collect scientific measurements during the encounter. Prior to Mariner 4, scientists had limited understanding of Mars, with Earth-based telescopic photographs providing scant surface detail but revealing seasonal changes that encouraged speculation of plant-like living forms on the planet. The spacecraft carried seven scientific instruments, such as a television imaging system, magnetometer, and particle detectors. Mariner 4 flew by, taking 22 photos and measuring various parameters. The results showed a frigid, desolate Mars with a surface temperature of roughly -100°C, low air pressure, and no magnetic field or radiation belts. The photos revealed a cratered surface like the Moon, contradicting previous views of a more Earth-like environment.

Though Mariner 4's images covered less than 1% of Mars' surface, the mission provided the first close-up images of another planet, setting the stage for future Mars exploration. The mission's success established the potential of interplanetary missions and paved the way for more advanced spacecraft and imaging technology in future missions. Despite crushing hopes of discovering life on Mars. Mariner 4 provided crucial data that influenced subsequent missions and deepened our understanding of the Red Planet.

Viking 1 An important turning point in the exploration of Mars was the Viking 1 expedition. The first successful landing on Mars was Viking 1, which was launched on August 20 in 1975, entered orbit around the planet on June 19, 1976, and landed its lander on the Martian surface on July 20 1976. Together, the orbiter and lander made up the mission, which allowed for the highest possible degree of detailed exploration of Mars. While the lander took 4,500 pictures of the landing location and carried out a number of scientific tests, the orbiter returned 52,663 images and mapped almost 97% of the surface at a resolution of 300 meters. Martian surface and atmosphere, significantly advancing our understanding of the planet and setting the stage for future Mars exploration missions.

Mars Express in 2012: A pivotal moment in ESA and NASA interplanetary collaboration was reached when the Mars Express mission relayed the first science data from NASA's Mars Curiosity rover. ESA's Mars Express orbiter received scientific data from Curiosity on October 6 in 2012, via its Lander Communication System (MELACOM) radio. MEX stored this data, which was then sent to Earth via its High Gain antenna. ESA's 35-meter-deep space station in New Norcia, Australia, received the signal. In addition to demonstrating the strong technical and engineering standards that allow for data sharing and telecommand links between spacecraft, networks, ground systems, and ground stations, this successful relay also showed that Mars Express can support NASA's rover missions as a backup relay platform, just like it did for NASA's Phoenix and the Mars Rovers Spirit and Opportunity in the past. All things considered,

the Mars Express mission demonstrated the value of global cooperation in space exploration and the efficiency of the communication networks established to facilitate such activities.

c.Colonization in Mars

Sustainable colonization has always stood at the forefront after humanity has succeeded in achieving its goals. It is deeply rooted in saving human life through another dimension of the universe. After nations, but first Elon Musk, realized the potential of Mars endeavors, he started integrating Earth's ongoing projects into their colony, where they developed technologies to ensure the survival of humanity beyond the edge of existence. The aftermath of colonization was critical due to Mars' unknown environment and the unexpected crises that could occur in future time zones. From the very beginning, it was a great challenge for humanity, but Musk tirelessly worked on his projects with all his power. While Elon was working to maintain his occupation, others didn't wait as well as him; the rival companies began to work tirelessly. There were millions of new flexible ideas due to embracing new features of arrival methods for the red planet.

As history repeated itself, once people no longer had to worry about their survival, they began to think about how to increase the value of the surface and their quality of life. This thought led them to divide their duties. Life in space was a tough struggle, but the real key was to sustain life once it was established, and people began to think about this aspect. With the help and guidance from Earth, tasks were divided into different areas. Encouragement from the previous space explorations and studies towards Mars' surface was the milestone of the ideas. Nevertheless, Mars always has mysterious sides that humans can't know before living on it. On the other hand, in advance of every beginning, Mars is a groundbreaking challenge and survival area for the human race.

Elon Musk's vision for sustainable Mars colonization began with the founding of SpaceX in 2002. Falcon 9, a reusable rocket that helped reduce launch costs and made space missions more frequent and affordable. SpaceX also introduced the Dragon capsule, which was designed to carry cargo and, eventually, people to the International Space Station, laying the groundwork for human missions beyond Earth. The biggest breakthrough, however, was the creation of Starship, a fully reusable spacecraft designed to carry large numbers of passengers and cargo to Mars. The development of Raptor engines, which will allow for the use of Martian resources like methane, was crucial for making long-term survival on Mars possible. At the same time, other companies like Blue Origin and Virgin Galactic have also made important strides toward sustainable space exploration.

Blue Origin, founded by Jeff Bezos in 2000, aims to make space travel more affordable with reusable rockets. Their New Shepard rocket focuses on suborbital tourism and research missions. But Blue Origin's long-term vision includes creating infrastructure for human settlements in space, including on the Moon and Mars. Their Blue Moon lander, designed to deliver cargo to the Moon, is part of this larger goal, with Mars being a key destination in the future.

As the others Virgin Galactic also didn’t wait for any seconds, led by Richard Branson, began with a focus on suborbital space tourism using the SpaceShipTwo spacecraft. While their main goal is to provide space tourism experiences, their efforts contribute to the growing commercial space industry. By increasing public interest in space, Virgin Galactic helps build momentum for future missions to the Moon and Mars. Additionally, The European Space Agency (ESA) has made key contributions to Mars colonization through research, missions, and international partnerships. Their Mars Express mission in 2003 provided valuable data on the planet’s surface and atmosphere. In 2016, ESA launched the Trace Gas Orbiter to study methane, and the ExoMars program aims to search for signs of life with the Rosalind Franklin rover, set for 2022.ESA is also focusing on the infrastructure for Mars missions, with lunar exploration serving as preparation. They are researching In-Situ Resource Utilization (ISRU) to use local resources like water ice and CO2 for oxygen and fuel production. Moreover, ESA is developing life support systems and habitats for human missions and working closely with NASA and other agencies. Through educational initiatives, ESA is inspiring future generations to contribute to Mars colonization. These efforts are essential in keeping the way for sustainable human life on Mars. These companies, along with others like Astra and Rocket Lab, are all working in their own ways to reduce the cost of space travel and push the boundaries of what’s possible. Though each has a different focus, either in Mars colonization, lunar exploration, or space tourism, they share the same vision of making space more accessible and sustainable for humanity in the long run.

d.Space Mining

Mining in space was significantly more difficult than first imagined from Earth. Reaching the discovered mineral reserves was just one of the many difficulties faced by personnel who had to wear heavy suits and were unfamiliar with the environment. Scientists who said Mars had immense worth were once again proven correct, and people's faith in science became greater. The most obvious evidence of this was Mars' achievement. The minerals recovered through these efforts to save humanity were invaluable. Given the time required to locate, extract, and process them, their value grew with each passing day. Since ancient times, numerous minerals on Earth have been employed in healthcare, transportation, machinery, and a variety of other sectors, and the discovery of new mineral deposits sparked interest. Mining is a patience-intensive job; reaching funds, extracting them, and evaluating their value all take time. But did Earth have that much time remaining? As Earth's resources decrease, the value of these newly discovered elements on Mars becomes increasingly evident. Space mining might provide a vital supply of key minerals, decreasing the strain on the world's economy. The minerals discovered on Mars, such as platinum, gold, and rare earth elements, are critical to sectors such as electronics, renewable energy, and medicine. With the Earth's resources declining these materials could help sustain crucial sectors, providing an economic boost while minimizing dependence on Earth-based mining.

As demand for these minerals grows, space mining may provide a consistent supply of these critical components, providing an economic lifeline to companies that rely on them. Rare earth elements, for example, are used to make high-tech products, electric vehicles, and wind turbines.

By obtaining such commodities from Mars, Earth may relieve resource shortages and provide stability in critical industries. Given that mining on Earth frequently results in environmental devastation and geopolitical conflicts, space mining offers a possible option that might minimize these negative effects, providing a more sustainable and secure future for world economies.

Asteroid mining, while still largely hypothetical due to high costs, holds significant potential. NASA's OSIRIS-REx mission, which aims to return just 400 grams to 1 kilogram of material from asteroid Bennu, has already shown how expensive such endeavors can be—estimated to cost over $1 billion. Companies like Planetary Resources and Deep Space Industries struggled to meet these costs, ultimately being acquired in 2018 and 2019. Despite the high price tag, mining asteroids could be immensely profitable. For example, Asterank estimates that mining just the 10 most valuable asteroids could yield $1.5 trillion. Asteroid 16 Psyche alone is thought to contain $700 quintillion worth of gold. Beyond economic benefits, asteroid mining could have positive environmental impacts. It would reduce the need for traditional, polluting mining practices on Earth and help avoid harmful chemicals like arsenic and lead. Additionally, asteroid mining could support the development of solar power satellites, providing a consistent, clean energy source. It also has the potential to reduce unethical practices in Earth's mining operations, such as child labor and dangerous conditions in places like the Democratic Republic of the Congo, which supplies much of the world's cobalt. To make asteroid mining a reality, therapies could include expanding access to mining technologies in developing countries, diversifying economies reliant on mining, and ensuring responsible regulation to prevent resource depletion. There are also ongoing discussions about how space mining will be regulated internationally, as treaties like the Outer Space Treaty have yet to address this issue fully. In recent years, missions like NASA's OSIRIS-REx, Hayabusa, and DART have advanced our understanding of asteroids. Companies like TransAstra are working on developing technologies to make asteroid mining feasible, including using low-cost telescopes and specialized equipment to identify and process asteroids efficiently.

While many breakthroughs are still needed, asteroid mining could provide Earth with valuable resources, offer environmental benefits, and help reduce the negative impacts of traditional mining. The technology and global regulations surrounding space mining will play a crucial role in shaping its future. Space mining also holds potential for technological advancements, driving innovation in robotics, automation, and energy production, benefiting the global economy. As demand for these materials rises, space mining could create new economic opportunities. With Earth facing increasing challenges, the need for space mining becomes more critical, offering resources that could help shift to a more sustainable economy and address key global issues.

e.Tourism in Space

At first, no one could have imagined that a project originating from the idea of tourism would grow so large and become humanity's last hope. However, as life in space progressed, demand for travel between Earth and Mars increased. The colony's support from Earth was limited, and in order to sustain itself and introduce Mars to people, different companies joined forces to organize tourist trips to Mars.

Scientists aiming to make Mars, not a secondary but a primary living space for humans successfully drew attention to their work. However, due to unresolved challenges and obstacles, they struggled to gain the trust of some people. As Earth's economic resources became more limited, the increasing travel between the two planets created further difficulties. This is where the real problem began. The stagnation of tourism posed a potential crisis, but at the same time, it played a significant role in Mars' independence.

Investors who didn't want to be away from their families aimed to create a place they could visit frequently and always find ready upon arrival. To achieve their goals, proper resource management and labor were necessary, but this conflicting situation raised doubts about the path being taken. Engineers played a crucial role in making space tourism fun, appealing, and as affordable as possible. Many unemployed engineers on Earth turned their focus to Mars.

In 2001, Russia acknowledged American businessman Dennis Tito as the first space tourist, followed by South African Mark Shuttleworth in 2002, as well as Greg Olsen, Anousheh Ansari, and Charles Simonyi. These first flights predict the establishment of a sustainable industry, with businesses already deciding to build suborbital vehicles and orbital cities within two decades, investing millions of dollars in the process. According to NASA's 1997 assessment, space tourism may become a $10 billion industry in 20 years, but concerns about safety and dependable launch vehicles are maintained.

Russia's Mir space station had been planned to host tourists, but its fall into the Pacific Ocean in 2001 put a halt to those arrangements. However, the devastation of Mir has not put a conclusion to the concept of space tourism, with other projects currently in development.

For example, hotel magnate Robert Bigelow's Bigelow Aerospace plans to develop economical habitable space stations. Space Island Group intends to construct a revolving space city 400 miles above Earth using renovated NASA space shuttle fuel tanks. Scaled Composites won the $10 million X Prize in 2004 for developing SpaceShipOne, a reusable launch vehicle that represented a significant step forward in space travel. Several businesses, including Space Adventures, provide suborbital flights and experiences such as zero-gravity programs or high-G flights.

The prices range from $10,000 to higher levels. Some have even suggested a lottery method to provide more people the opportunity to explore space. Looking ahead, certain firms, such as SpaceX, Blue Origin, and Virgin Galactic, are working on long-term space travel. SpaceX provides multi-day stays in orbit, whereas Blue Origin focuses on suborbital missions and hopes to expand into orbital industries. Virgin Galactic's goal is to provide short suborbital flights over the Kármán line, allowing visitors to experience space.

Space tourism also does not significantly enhance human spaceflight, raising doubts about whether the investment would result in long-term growth or other space applications. Space Perspective, for example, aims to make space travel more accessible and safe by promoting innovation and collaboration in the space sector. There are additional efforts to market Low Earth Orbit (LEO), such as NASA's desire to open the International Space Station to commercial operations. This covers space tourism, as well as in-space production and transit. Space tourism is predicted to drive additional economic and scientific development in the coming years,

including private space stations, hotels, and even trips to the Moon and Mars. However, high prices continue to be a barrier, but reusable launch vehicles and other innovations are working to reduce them.

Countries such as the United Kingdom and the UAE are looking into ways to profit from the space tourism explosion, while Zero 2 Infinity is developing alternatives such as high-altitude balloons for more affordable space experiences. Over these, space tourism is expected to rise, fueled by private sector investments and continued attempts by NASA and other space agencies to make space more accessible. As the sector expands, it has the potential for both financial success and new scientific discoveries.

f.Agriculture and Botanic

The agricultural project on Mars has been implemented effectively, with the goal of discovering and exploiting suitable habitation locations for agricultural production. Specially modified seeds were grown in laboratories to adapt to the unique conditions of Mars. This creative strategy has successfully produced plants that can comfort in the harsh Martian environment. As a result, the greenhouse system developed on Mars will meet roughly 60% of the colony's agricultural requirements, assuring a consistent food supply for the people. This breakthrough is a key step toward the creation of self-sustaining systems for the Mars colony.

Another option is to combine mining activity on Mars with trade. Valuable mineral deposits already detected on Mars might be harvested, and unmanned spacecraft traveling between Earth and Mars on a regular basis could return these resources to Earth. This system has the potential to improve the colony's economy while at the same time helping to save Earth's resources. With Earth facing a resource restriction, transferring goods from Mars could be vital to future businesses and economic growth. The plan could also include attempts to investigate alternative energy sources as well as appropriate use of Mars' natural resources. This would lay the groundwork for the colony's long-term viability. Engineering and biotechnology initiatives targeted at enhancing living circumstances on Mars and increasing the colony's independence could be produced.

These initiatives would not only make life on Mars more sustainable, but they would also help to build a knowledge base for improving living conditions on Earth. Such projects could spark new ideas about the viability of life on other planets and the possibility of colonization.In conclusion, projects such as agriculture and mining on Mars might build the foundations not just for sustaining life on the planet, but also for interplanetary life and resource management, bringing in an exciting period in human history.

g.Space Weaponization

Space weaponization, defined as any space-based or terrestrial-based weapon that has devastating consequences in space, disrupts the peaceful use of space or threatens space security, has advanced dramatically in recent decades. Tracing the evolution of airpower and space

weaponization exposes a common set of technological, geopolitical, and legal obstacles. Early efforts to weaponize the air and space domains faced technological limits, preventing instant success. For example, early balloon bomber attempts by Denmark and Russia were unsuccessful due to technological constraints, while space weaponization initiatives such as the Dyna-Soar space bomber faced similar challenges. States overcome these constraints as technology has developed and the costs and dangers associated with it minimized.
The history of air weaponization demonstrates how technological limits were eventually overcome, resulting in the development of military air power. Similarly, space weaponization will grow faster as technology advances and viable alternatives to weaponizing the air and space domains become available.

International legal frameworks have attempted to limit space weaponization, but, as with the airfield during World War I, these efforts have been weakened by technological improvements and political realities. Space-based weapons are not considered prohibited under current international law in order to prohibit them such as the 2008 Conference of Disarmament, which has been postponed. The rising geopolitical tensions between the United States, China, and Russia, together with increased investments in space technology, are likely to bring about another phase of rapid space weaponization. States will continue to push technological boundaries because many innovations with peaceful origins will eventually have military uses. The progress of space weaponization, influenced by technological, geopolitical, and legal issues, is similar to the early twentieth century growth of air armament.

Nations that invest in space weaponization may gain an advantage in controlling the strategic domain of space, allowing them to have a larger impact on world events. furthermore, space weapons can be used to disable or eliminate competitors' crucial spacecraft-based inventory, decreasing their ability to wage war, conduct reconnaissance, or disrupt communications, resulting in a decisive advantage in battles.In conclusion, while the weaponization of space poses significant risks to international security and stability, it also offers strategic advantages such as deterrence, enhanced national defense, and technological progress. However, these benefits must be carefully weighed against potential consequences, including increased conflict potential, arms races, and environmental damage. As space weaponization progresses, international cooperation and regulation need to be essential to ensure it is used responsibly and does not escalate conflicts, while maximizing its benefits for national defense and global security.

h.Major Scientist

1. UNITED STATES OF AMERICA: NEIL DEGRASSE TYSON

Neil deGrasse Tyson. Tyson is one of the most well-known astronomers today and is particularly noted for his popular science publishing. He inherited Carl Sagan's legacy by hosting the television program "Cosmos: A Spacetime Odyssey." It is also known for its close

relationships with the American Aeronautics Administration (NASA) and various academic institutions.

Neil deGrasse Tyson's personality and contributions are truly impressive! His ability to explain science in an entertaining way, reach a wide audience, and introduce them to science plays a major role. Not only through his scientific explanations but also by making his mark in popular culture, his ability to blend science and entertainment seems to have sparked interest in science for many people. Especially his StarTalk program, which includes both scientific discussions and deep conversations with celebrities, creates a wonderful space where science and entertainment intersect.

His strong friendships and interactions with Bill Nye and other scientists have created a positive synergy in the scientific world. Following in Sagan's footsteps and taking on his mission of popularizing science communication, Tyson's legacy is very meaningful. Growing up under the influence of Carl Sagan, it's not surprising that Tyson also serves as an inspiration for other scientists. As you mentioned, how do platforms like Evrim Ağacı feel the impact of someone like Tyson? What developments in science communication have been sparked by the contributions of scientists like him?

2. RUSSIAN FEDERATION: SERGEY KRIKALYOV

Russia's most famous living space-related figure is Sergey Krikalyov, one of the best-known space scientists and cosmonauts today, succeeding Yuri Gagarin. Sergey Krikalyov is one of Russia's most experienced cosmonauts and one of the longest-staying people in space. During the 1990s and 2000s, he spent a total of 803 days, 9 hours, and 39 minutes in space. Krikalyov made great contributions to Russia's space program and took part in International Space Station (ISS) projects.

Sergey Konstantinovich Krikalyov (born August 27, 1958, in Leningrad, Russia, USSR [now St. Petersburg, Russia]) is a Russian cosmonaut who set the world record for the longest time spent in space with six space flights from 1988 to 2005. After receiving a degree in mechanical engineering from the Leningrad Technical Institute, Krikalyov joined NPO Energia (now RKK Energia), the largest Soviet spacecraft design organization, in 1981 as an engineer. Four years later, he became a civilian cosmonaut trainee. His first space mission took place in 1988-89, where he served as a flight engineer on Soyuz TM-7 and spent 151 days in space aboard the Mir space station. In 1991-92, during the collapse of the Soviet Union, he was in the public eye during his second mission to Mir. After being launched as a Soviet citizen, he returned as a Russian citizen 311 days later.

Krikalyov was the first Russian cosmonaut to serve aboard an American spacecraft. In 1994, he flew as a mission specialist on STS-60 aboard the Discovery space shuttle for an eight-day mission. In 1998, he flew for the fourth time as a mission specialist on STS-88 aboard the Endeavour space shuttle, visiting the International Space Station (ISS) for a 12-day mission. His fifth space mission took place in 2000-01 when he served as a flight engineer on Soyuz TM-31 as part of the first resident crew (Expedition 1) aboard the ISS, spending 141 days in space. In

2005, he flew for the sixth time as the commander of Soyuz TMA-6, spending 179 days aboard the ISS as part of Expedition 11, bringing his total time in space to 803 days. In 2007, Krikalev became the Deputy Head of Manned Flights at Energia. In 2009, he left the cosmonaut program and Energia to join the Yuri Gagarin Cosmonaut Training Center in Star City, Russia.

3. CHINA: YANG LIWEI

Yang Liwei. Yang Liwei was the first Chinese cosmonaut in space, aboard China's first manned space mission, Shenzhou 5, in 2003. This date is an important milestone in China's space exploration, and Yang Liwei's name has become synonymous with China's space program. After Yang Liwei's space mission, he became an important figure in China's space industry. For his journey into space and his contributions to China's space program, he has become one of the most recognizable faces in China's space exploration.

In 1983, he joined the Chinese People's Liberation Army (PLA) and was selected to enter the aviation college of the PLA Air Force. He graduated in 1987 and became a fighter pilot, accumulating more than 1,350 flight hours. In 1998, he was selected from more than 1,500 candidates to undergo astronaut training for China's crewed spaceflight program. Yang, along with 11 other taikonauts (China's equivalent of astronauts), spent five years studying the spacecraft's science and functioning and receiving physical and psychological training.

Yang was identified as a crew member for China's first crewed spaceflight just one day before the scheduled launch of the Shenzhou 5 vehicle. It took off from the Jiuquan Satellite Launch Center in the Gobi desert in China's Gansu province on 15 October 2003. A Chang Zheng 2F rocket launched Shenzhou 5 into space, where Yang spent 21 hours and orbited the Earth 14 times. It never entered the orbiter module of the vehicle, which was released to perform a six-month military imaging reconnaissance mission. He returned to the reentry module, which parachuted down near a landing site in Inner Mongolia on 16 October.

Following Yang's return, he was appointed deputy commander-in-chief of the astronaut system of China's crewed spaceflight project. In 2008, Yang was promoted to major general.

4. ENGLAND: SIR MARTIN REES

Sir Martin Rees is a renowned astronomer and astrophysicist and served as professor of astronomy at the University of Cambridge. Rees is known for his work on the structure of the universe, black holes, and cosmology. He also served as president of the Royal Society and made a huge impact on the scientific field. Rees also wrote popular science books and contributed to raising public awareness about questions about space and the universe.

Martin Rees is Britain's Astronomer Royal. He is based at the University of Cambridge, where he is a Fellow (and Past Master) of Trinity College. He is a member of the House of Lords and a former President of the Royal Society. His research interests include space exploration, black holes, galaxy formation, the multiverse, and the possibilities of extraterrestrial life. He isa co-founder of the Center for the Study of Existential Risks (CSER) at the University of

Cambridge. Besides academic publications, he has written research articles, many general articles, and ten books, the latest of which is 'On the Future: Possibilities for Humanity'.

5. FRANCE: JEAN-PIERRE HAIGNERE

Jean-Pierre Haigneré is a French astronaut and former spaceflight engineer. Born in 1951, Haigneré contributed to space research as a member of the French Space Agency (CNES) and worked on behalf of the European Space Agency (ESA). Haigneré is especially known for his spaceflight to Russia's Mir Space Station in 1999. He also took part in the International Space Station (ISS) during his second space flight in 2001. Haigneré participated in a total of 2 space missions and spent a total of 43 days, 3 hours, and 13 minutes in space.

Jean-Pierre Haigneré was born in Paris, France, and joined the French Air Force, where he trained as a test pilot.

He flew two missions to the Mir space station in 1993 and 1999. The Mir Perseus (Mir EO-27) long-duration mission (186 days) in 1999 also included an EVA. In addition to his duties at the European Space Agency, Jean-Pierre Haigneré is also involved in a European space tourism initiative called Astronaute Club Européen (ACE), which he founded together with Alain Dupas and Laurent Gathier. He is known as the person who took the first photograph of the shadow of a Solar eclipse from space. He took this during the Mir Perseus (Mir EO-27) mission.

6.INDIA: DR. K. SIVAN

One of India's most famous living space scientists, Dr. K. Sivan. Dr. Sivan is the chairman of the Indian Space Research Organization (ISRO) and one of the key leaders in India's space exploration.

Dr. Notable Contributions of K. Sivan:

Leader of ISRO: Appointed as Chairman of ISRO in 2018, Dr. K. Sivan started an important era in India's space research. Sivan has spearheaded many important projects with the aim of further advancing India's space programs. Chandrayaan-2 and Mars Orbiter Mission (Mangalyaan): Dr. Sivan has led India's major exploration missions to the Moon, such as the Chandrayaan-2 mission. The Mars Orbiter Mission (Mangalyaan) in 2013 made India the first Asian country to successfully send a satellite to Mars, an achievement attributed to Dr. It is one of Sivan's contributions at ISRO. National and International Recognition: Dr. Apart from leading India's great achievements in space exploration, Sivan is also a respected figure in the international scientific community. He is also a figure who advises the government on India's development of space technologies.

7.EGYPT: FAROUK EL-BAZ

Farouk El-Baz is a famous space scientist, geologist and space exploration expert of Egyptian origin. He is best known for his scientific contributions to NASA on the Apollo Moon missions. Al-Baz is particularly known for his work in mapping the lunar surface and helping astronauts choose lunar landing sites.

Farouk El-Baz advised NASA on the Apollo 15, 16, and 17 Moon missions, helping astronauts choose the regions where they would land on the Moon. His work in mapping the lunar surface and understanding its topography played a critical role in the scientific exploration of the Moon.

El-Baz has done important work on examining the geological features of planetary surfaces in space. He made significant contributions, especially to the study of the geological structures of the Moon and Mars and trained astronauts on how to use this information.

In addition to his lunar studies, El-Baz also studied the geological structure of Mars. By analyzing the features on the surface of Mars, it has provided important information about the history of this planet.

Shortly after Farouk El-Baz began the Apollo Program, he was assigned to examine mountains of detailed photographs of the Moon's surface; This was an important step in choosing the most ideal and precise landing site based on lunar terrain, climate changes, and other factors. He served in the same role for the famous Apollo 15 Lunar Rover exploration mission, training Apollo astronauts in important skills such as visual observation and space photography; he also instructed crew members on what rocks to collect and how to collect lunar soil. He was so important to Apollo that in Tom Hanks' HBO TV series From the Earth to the Moon, El-Baz's role as an Apollo scientist and astronaut instructor was featured in an episode titled "The Brain of Farouk El-Baz," and a shuttle vehicle named El-Baz flew in the popular TV series Star Trek: The Next Generation. His outstanding teaching abilities were confirmed by the Apollo astronauts. While orbiting the Moon for the first time during Apollo 15, Command Module Pilot Alfred Worden said, "After training with King [Farouk's nickname], I feel like I've been here before." he said.

8. AUSTRALIA: BRIAN SCHMIDT

Brian Schmidt is an Australian astrophysicist and co-winner of the 2011 Nobel Prize in Physics. Schmidt is known for his work on cosmology and dark energy. In particular, he was awarded the Nobel Prize as part of the research team that discovered that the expansion of the universe was accelerating. This discovery revolutionized the understanding of cosmology by showing that the expansion of the universe was not only continuing but also accelerating.

Schmidt continued his postdoctoral studies at the Harvard-Smithsonian Astrophysics Center from 1993 to 1994 before moving to the Mount Stromlo Observatory in 1995. He wrote his report proving that the expansion rate of the universe is now accelerating through the monitoring

of Type Ia Supernovae. He started working with Adam Riess in 1998. By monitoring the color changes of light coming from supernovae from Earth, they discovered that these billion-year-old novae were still accelerating. This result was found almost simultaneously.

9. SOUTH KOREA: YI SO-YEON

She is known as South Korea's first astronaut and is an important space scientist. Born in 1978, Yi So-yeon has the title of being the first astronaut selected by the Korean Space Agency. Yi, who was sent into space with the Soyuz TMA-12 spacecraft in 2008, made history with this mission. After studying bioengineering at Seoul University, Yi So-yeon trained in collaboration with space agencies such as NASA and Roscosmos. On his first mission into space, he spent approximately 9 days on the International Space Station (ISS). In this role, he contributed to scientific studies by conducting experiments on biotechnology and medicine.

As the first Korean person to travel into space, Yi has become an important symbol for South Korea's achievements in space exploration and science. In addition, this mission increased South Korea's international reputation in the field of space and accelerated developments in space technologies. Beyond just being an astronaut, Yi So-yeon is an important figure who contributed to scientific research and the development of space technologies.

10. GERMANY: HARALD LESCH

One of Germany's best-known scientists, astrophysicist, astronomer, philosopher and science popularizer. Born on July 28, 1960, Lesch is known especially in Germany for his programs and television work that bring science and astronomy to the public. Lesch works as a professor at the Technical University of Munich, where he teaches astrophysics and cosmology.

However, it is television programs and popular science books that enable it to reach the widest audiences. In particular, his program "Leschs Kosmos" addressed scientific issues in an understandable manner and appealed to a wide audience. In this program, he conveys many different scientific topics to the audience, from the structure of the universe to black holes and the nature of time.

Lesch has been a professor of theoretical astrophysics at the Institute for Astronomy and Astrophysics at LMU Munich since 1995. He also teaches natural philosophy at the Philosophical University of Munich. His main research areas are cosmic plasma physics, black holes a,nd neutron stars. He is an astrophysicist at the Deutsche Forschungsgemeinschaft (DFG) (German Research Foundation) and a member of the Astronomische Gesellschaft (Astronomy Society). He is also a textbook author.

Lesch has made television appearances for alpha-Centauri, Lesch & Co., Denker des Abendlandes (Thinkers of the Western World), and Alpha bis Omega (From Alpha to Omega),

the BR-alpha channel's long-running, self-presented production. He also presented shorter television series. His presentations attempt to make complex physical or philosophical topics more accessible to the public. In 2005 he was awarded the Communicator Award by the DFG and the Stifterverband für die Deutsche Wissenschaft (German Scholarship Foundation) for his television appearances and broadcasts. To honor his work in making scientific findings understandable to the wider public, the Naturforschende Gesellschaft zu Emden (nature research society) awarded him an honorary membership on March 15, 2011.

11.SAUDI ARABIA: RAYANNAH BARNAWI

Born in September 1988 in Saudi Arabia, Barnawi holds a Master of Biomedical Sciences from Alfaisal University in Saudi Arabia and a Bachelor of Biomedical Sciences from Otago University in New Zealand. She has over nine years of experience as a research lab technician for the Stem Cell and Tissue Re-engineering Program at King Faisal Specialist Hospital and Research Center in Riyadh, where she worked on cancer stem-cell research. Her training includes wingsuit flying in Dubai in 2014 and centrifuge and hypoxic training in Saudi Arabia in 2022.

Rayyanah Barnawi, the first Saudi female astronaut, has made several significant achievements in her role as an astronaut. A biomedical researcher with nearly a decade of experience in cancer stem-cell research, she made history as the first female Arab astronaut in space, a milestone recognized by Guinness World Records. She was part of Axiom Mission 2 which launched from Cape Canaveral, Florida, on May 21 in 2023, marking her as the first woman from Saudi Arabia to travel to space.

During her mission, Barnawi conducted several groundbreaking experiments, including studying the response of immune cells and how microgravity affects biological processes, ushering in a new era of discoveries aimed at benefiting humanity. She also participated in educational outreach projects, testing a kite in microgravity and capturing video for audiences back home. They conducted 14 research projects on microgravity, three of which were kite experiments involving 12,000 school students from 47 locations across Saudi Arabia, conducted via satellite with her fellow astronaut Ali Al-Qarni.

Her contributions to space exploration and research mark a milestone in history, inspiring future generations in both science and space travel.

12.TÜRKİYE: ISMAIL AKBAY

Ismail Akbay is the first Turkish engineer to work at NASA. He was born on October 17, 1930, in the Zeytinbağı (Tirilye) neighborhood of Mudanya. Akbay completed his secondary education at Haydarpaşa High School and then went to the United States for university, graduating in 1956 with a degree in physics engineering from the University of Tennessee.

Famous rocket scientist Dr. Wernher Von Braun selected İsmail Akbay for the engineering team to continue the integration work of the F1 engine for the Apollo Saturn V-S1C rocket at the Marshall Space Flight Center. Akbay also led the engine integration efforts for the Apollo-Soyuz Test Project on the Saturn 1B/H-1 rocket. Between 1963 and 1975, Akbay held management positions at NASA.

After his NASA experience, Akbay worked on transferring space technologies to the American space sector and commercializing other federally funded technologies. He was also instrumental in the founding of the Space Camp Turkey. In 1996, during a meeting, Akbay mentioned the idea of establishing a Space Camp in the Aegean Free Zone to Kaya Tuncer, laying the foundation for Space Camp Turkey. Akbay participated in the opening ceremony of Space Camp Turkey in June 2000 and supported its subsequent development until his untimely death in July 2003.

During his 31 years at NASA, İsmail Akbay earned a place among the pioneers of American space research. After humans first set foot on the moon in 1969, Turkish newspapers referred to him as the "Turk Who Contributed to Mankind’s First Step on the Moon." In 2003, Akbay tragically passed away from smoke inhalation in a fire at his home in Huntsville, Alabama. His death occurred as he attempted to rescue his dog after saving his wife.

i.Questions to be Concerned

1-What types of plants should be chosen for agriculture on Mars? What innovative methods can be developed for food production on Mars? How can safe shelters be built for humans on Mars, and what materials should be used and implemented to make these structures be made resistant to extreme temperature surges and ensure pressure balance on Mars?

2-How can international space law, resource management, environmental responsibility, ethical frameworks, human rights protections, business regulations, crisis management, space-based armament, and scientific research guidelines be established and integrated to ensure sustainable life and colonization in space, particularly on planets like Mars, while upsizing global cooperation?

j.Tips for How to Survive on Mars

1-Cold Temperatures

a)The temperatures on the surface of Mars are not suitable for human habitation. One of the biggest challenges you will face on Mars is the low temperatures. To avoid this, you can take the following measures:
-Inventing new high-technology spacesuits which have some sort of heat generator
-Warming up the mars(you have dozens of option)
-Creating new life modules with great heat isolation and production

2-Intense Weather Conditions

a)On the surface of Mars there are terrifying sandstorms reaching speeds of 150 km per hour. It may not seem that powerful but with the help of sand, the sandstorms can easily wipe some of your life modules, greenhouse, etc. To avoid this, you can take the following measures:
-Inventing new storm detector systems could help you detect the storms before it is too late
-Strengthening your life module's fundamentals could make them not get damaged during the sandstorms

3-Lack of Oxygen and Fresh Air

a)As you already know there is not enough O2 in the atmosphere of Mars that's why humans can't live outdoors yet but you will eventually have to spend a lot of time on Mars's surface without refilling your oxygen tubes if you don't take precautions you might die. To avoid this problem you can take the following measures:
-Inventing bigger tubes for carrying more Oxygen(boring and not that effective)
-Using nature as your oxygen source may not be effective suddenly but in the long run you can increase the percentage of Oxygen in Mars atmosphere

4-Resource Management

a)Especially when you first arrive on Mars you will only have what you got from Earth and they are not gonna last forever. Agriculture can be successful but it will take months and in that time you will have to be careful with your resources because even a single wrong decision may end your journey. To avoid this, you can take the following measures:
-You can decrease the portions (it will help with the time but it will make people nervous and angry)
-You can try to invent new crops that can grow in a shorter period(if you succeed this is amazing progress)

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