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# **Topic: The commercialization and colonization of space**

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**The Special Political and Decolonization Committee (also known as the Fourth Committee) is one of the six vital organs of the United Nations, primarily dealing with issues associated with decolonization, peacekeeping operations and special political missions as well peaceful uses of outer space. The committee has overseen the decolonization of over eighty countries and has recognized fifteen self-governing territories since, focusing now more on disarmament and regional security.**

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# History

## Cold War

The genesis of space exploration can be traced to a time of political chaos: The Cold War. Amidst a fierce contest between 2 world superpowers - capitalist USA and communist Soviet Union- a new type of conflict was created: The Space Race.

When the US made the existence of the first ever nuclear bomb public in 1945, a relentless battle between the two states began. Both sides tried to prove the superiority of their technology, their military firepower and by extension their political-economic system. To take this a step further, the US and Soviet Union took this battle of theirs to space.

## Space Race

- October 4<sup>th</sup>, 1957, a Soviet R-7 intercontinental ballistic missile launched "Sputnik". The first man-made object to be sent into space.

This drove a further wedge between the US and Soviet Union who now had competition in building successful space technology. Soon after, the US began advancing their own efforts in this field, their first effort being,

-January 31, 1958, the US launched the "Explorer" This marked the official dawn of the Space Race.

-By this time, the Soviet Union had already won another round of the race by introducing the Laika, the first living thing to enter space in Sputnik 2.

-In the same year US President Dwight D. Eisenhower, created the National Aeronautics and Space Administration (NASA) dedicated to space exploration. Eisenhower also created two national security-oriented space programs that would operate simultaneously with NASA's program. The first was headed by the U.S. Air Force and its objective was to exploit the military potential of space. The second was led by the Central Intelligence Agency, the Air Force and a new organization called the National Reconnaissance Office, its objective was to use orbiting satellites to gather intelligence on the Soviet Union and its allies.

## Space Race comes to a close

After repeated back and forth competition, the Space Race finally peaked on July 20th, 1969 with Apollo 11, the US landing of the first human on the Moon.

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This achievement was the last effort by either of the two countries in the Space Race.

### **International Space Station Programme**

The International Space Station Programme was a series of cumulative legal agreements in 1998 by the 5 core space agencies of the world: NASA, Roscosmos, European Space Agency, Japan Aerospace Exploration Agency and the Canadian Space Agency. Its aim was to tie together the interests of 15 nations to overlook and maintain station operations and space expeditions. The legal agreement that binds the nations with certain obligations and rights is known as the IGA or the Space Station Intergovernmental agreement.

#### **A clause of the IGA:**

"This Agreement is a long term international co-operative framework on the basis of genuine partnership, for the detailed design, development, operation, and utilization of a permanently inhabited civil Space Station for peaceful purposes, in accordance with international law."

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# Treaties and legal agreements

## **Partial Test Ban Treaty of 1963(PTBT)**

It can be said that the PTBT was a product of the crisis that was taking place between the US and the USSR: The Cuban Missile Crisis of 1962. This crisis reinforced the magnitude and impact of nuclear weapons. The world had now become witness to the scale and horrors of the impact of such technology. This sparked a series of negotiations between the US and the USSR in 1962 and 1963. The objective of the negotiations was to come to a final conclusion on putting a ban on testing nuclear weaponry. Seeing as neither side was willing to come to such a conclusion, they agreed on a partial test ban treaty. This banned all testing except underground testing where radiation could not spread beyond independent territory. Consequently, the Partial Test Ban Treaty was agreed upon.

## **Strategic Arms Limitation Talks (SALT's)**

These talks were a series of negotiations between the US and the USSR in curtailing the manufacture of missiles capable of carrying nuclear weapons. Between 1972 and 1979, the US and USSR agreed on SALT I and SALT II which were focused on the strategic limitation of nuclear weapons.

Within the SALTS came a series of sub-agreements, most notable of which was the:

## **Anti-Ballistic Missile Treaty (ABMS)**

The ABM treaty was essentially in charge of regulating anti-ballistic missiles that could potentially and hypothetically be used to destroy approaching intercontinental ballistic missiles launched by the other superpower. There were certain limitations imposed that prevented either party from defending more than a small fraction of its entire territory, and thus kept both sides subject to the deterrent effect of the other's strategic forces.

Not long after, the second set of SALT's was agreed upon which finally set limits on the number of strategic launchers each nation could possess.

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# Effect of technological advancement on commercialization

The dawn of the 21st century marked the transition from space exploration as a government led initiative to an increasingly private and independent process. The modern meaning of “commercializing space” often has the connotation of space tourism and space transport attached to it. With companies like Space-X and Virgin Galactic, the idea of living in space has become normalized and an expected fate of human existence. Similarly seeing as the idea of space inhabitation is one that is highly attractive and popular with large number of people, privately owned companies have begun to dedicate more and more time and research into independent space exploration projects. Young companies such as SpaceX and Blue Origin are incorporating the next era of space exploration as part of a new free market. This has given rise to increased efforts in finding sustainable methods of transportation to the cosmos. The aim of these companies is to create a reality that will make the space economy as accessible as any other existing economy on Earth.

Opening the idea of space as a potential home for humans has resulted in decades of technological advancement tuned towards existence in space. The emphasis placed on such exploration has only been possible because of its independence from government initiatives. Some important pioneers of space development are SpaceX with their reusable spacecraft and miniaturized satellites and XCOR’S Lynx spaceplane.

With technological development towards space exploration becoming more and more common, not only will the number of space-centric nations increase, but so will the types of people who can call themselves astronauts. The Virgin Galactic when finally released, will be carrying a mixture of celebrities, scientists and wealthy business types to space.

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# Commercial Activities in Outer Space

Across the world exploration and exploitation activities in outer space are regarded as a key difference between countries that have achieved “developed” status and countries that are still undergoing development. However, it is important to understand that it is not just nations that operate in space, but private companies are also beginning to become involved with outer space at an increasing rate. There is no doubt that our solar system is filled with exploitable asteroids and comets containing fuels that can be used to maintain spacecraft and raw materials worth the entirety of the world’s GDP thousands of times over. Companies such as America’s “Planetary Resources” and the United Kingdom’s “Asteroid Mining Corporation” are already racing to develop the technology to mine these minerals.

As of now, there is no theoretical framework in place to regulate commercial activities in space. Even the laws that exist do not provide proper guidance further fostering excessive exploitation in outer space. With such a lack of regulation there is likely to be pandemonium in the coming future. Perhaps the most pressing concern in regulating private industry in space is the tracking and management of commercial satellites in orbit around earth, particularly in low Earth orbit (LEO). In LEO there are over 1 million pieces of debris of varying sizes orbiting at speeds in excess of 22,000 km/h. With so much debris, it is crucial that space-faring nations and companies have means to effectively monitor and have up-to-date information of the positions of satellites and debris and how they can safely maneuver to avoid collisions. One such incident, the Cosmos-Iridium collision, occurred in 2009 and alone added thousands of pieces of debris into the LEO equation.

It is important to note that as tourism, space travel and exploitation activities develop, companies and countries may fight over which physical areas in space and which routes belong to them, and nations may war over nearby mineral-rich asteroids.

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# Past UN Action

## Outer Space Treaty

In 1966, the United Nations Passed the Outer Space Treaty, or the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.

*Major Points of the treaty:*

- 1) The exploration and use of outer space shall be carried out for the benefit of all countries.
- 2) Outer space shall be free for exploration and use by all states and is not subject to national appropriation by claim of sovereignty, by occupation, or by any other means.
- 3) States shall not place nuclear weapons or other weapons of mass destruction in orbit or on celestial bodies or station them in outer space in any other manner and that the moon and other celestial bodies shall be used exclusively for peaceful purposes.
- 4) Astronauts shall be regarded as the envoys of mankind and treated accordingly.
- 5) States shall be responsible for national space activities, whether carried out by governmental or non-governmental entities, and shall be liable for damage caused by their space objects.
- 6) They must also avoid harmful contamination of space and celestial bodies.

In order to verify compliance, the treaty also maintains that states will inform the U.N., the public, and the scientific community of the “nature, conduct, locations, and results of activities covered in this Treaty”. However, one of the most major issues is that the term “outer space” has not been clearly defined in the treaty.

## Rescue Agreement

This Agreement, elaborating on elements of articles 5 and 8 of the Outer Space Treaty, provides that States shall take all possible steps to rescue and assist astronauts in distress and promptly return them to the launching State, and that States shall, upon request, aid launching States in recovering space objects that return to Earth outside the territory of the Launching State.

## Liability Convention

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Elaborating on Article 7 of the Outer Space Treaty, the Liability Convention provides that a launching State shall be absolutely liable to pay compensation for damage caused by its space objects on the surface of the Earth or to aircraft, and liable for damage due to its faults in space. The Convention also provides for procedures for the settlement of claims for damages.

### **The Moon treaty**

The Moon Treaty was adopted by the United Nations in 1979 and fully ratified in 1984, allowing it to enter in effect that same year. The agreement elaborates on many of the principles mentioned with the Outer Space Treaty, namely that the Moon and other Celestial bodies be used solely for peaceful purposes, that environmental integrity be maintained, and that the United Nations be informed of the location and purpose of any station established on those bodies. The treaty further asserts that “the Moon and its natural resources are the common heritage of mankind and that an international regime should be established to govern the exploitation of such resources when such exploitation is about to become feasible”.

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# Bloc Positions

## **United States of America**

The USA currently only owns 25% of the world's space launching capability. Perhaps the reason for this is the increased focus by the United States government to focus on private enterprise in space and on private contracts for traditional government roles in space activities.

In 2015, President Obama signed the US Commercial Space Launch Competitiveness Act. This asserts that American citizens can go into space and make use of asteroids with the promise that they shall be "entitled to any asteroid resource or space resource obtained, including to possess, own, transport, use, and sell the asteroid resource or space resource obtained". While the policy specifically goes out of its way to acknowledge that it is not claiming sovereignty over materials in space many observers have protested that the United States cannot give away to companies what it itself does not own.

The USA also fears other nations joining the space race. This is evident by the fact that when China in 2003 became the 3rd country to launch astronauts into space the United States of America tried to stop the Chinese from joining the international space station program. American attitudes towards space can be marked by three defining traits: a decreasing level of capability in space, an increasingly assertive and unilateral approach, and a fear of others joining the race.

## **Russia**

Russia is increasing its efforts to return to its Soviet Era level of prominence in space. Its main priorities, now, are its commitments to the ISS and using its space presence to project its level of power. This, however, is difficult due to its current reliance on the United States for many of its capabilities. Russia will however certainly work hard to attempt to become one of the most indispensable nations in space and would only amend its international legal commitments if the changes benefited Russia.

## **China**

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China's goals in space include expanding its human spaceflight capabilities and to catch up technologically with other developed nations. It would applaud a policy that leveled the current playing field but still provided opportunities for it to separate itself from the pack later on. It is important to note that China's military space program is highly secretive but has conducted anti-satellite tests as recently as 2006. This speaks volumes about its stance on the importance of the military's role in space expansion. The country has, as well, developed jamming satellites and anti-satellite missiles. Like the United States, China has also begun to see the advantages of handing aspects of the space industry over to the private sector.

### **Other nations with space capabilities**

Most nations with space capabilities advocate for cooperation in space as well as preventing unilateral action from the more advanced countries. Many are themselves developing space capabilities on their own but would approve of international cooperation on efforts to improve space activity.

### **Developing Nations**

Several developing nations are attempting to build their own space programs, but they and other countries who are not making any efforts are far behind countries with already established space enterprises of their own. Developing nations will have two main goals in the coming discussions about commercialization and colonization in space. The first is that existing space technologies will be used for their benefit. The second is that there will be equal opportunities for them to reap the benefit of space exploration in the future

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# Questions a resolution must answer

- 1) Should ownership exist in space? And if so in what form?
- 2) What regulations need to be implemented to ensure the safety of people and machines within LEO as well as to prevent possible future conflicts.
- 3) Should militarization of space be allowed?
- 4) How should the environment in space be treated?
- 5) Should the regulations be enforced primarily by national governments or via a new or existing international organization?