

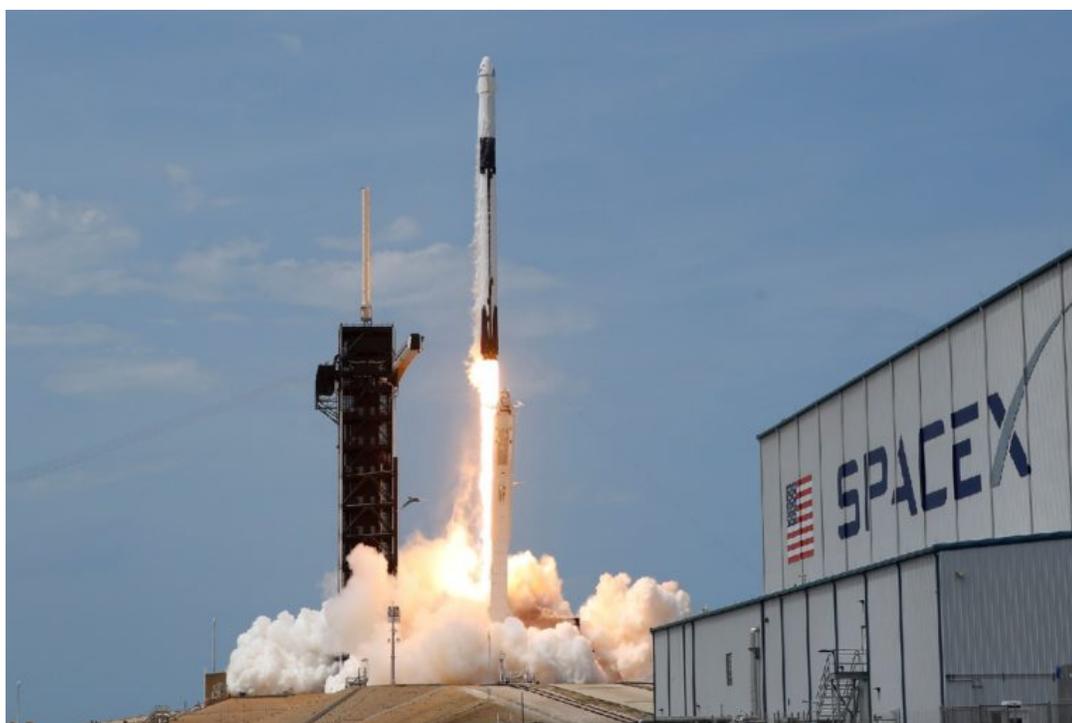
Forum: United Nations Office for Outer Space Affairs(UNOOSA)

Issue: Measures to address commercialization of Space travel

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Introduction



Joe Skipper/Reuters

In the past few years the world has witnessed an advancement in space technology and growing interest from private companies to invest in it. Space X, Blue Origin, and Virgin Galactic are just a few examples of private companies that have explored areas in space that have previously only been explored by

governmental-led organizations. Furthermore, this huge investment from the private sector in space travel and technology demonstrates a willingness to expand the profitable area of Space tourism.

According to the Washington Post, in 2020 the commercial sector of Space commercialization reached 357 billion dollars, with predictions of a trillion by 2040. Major parties involved in the commercialization of space are private companies, often led by already well-established and wealthy people (such as Bezos and Musk). Most of those have plans to establish space tourism in the next few years, being able to create technological complexes that can attend to the needs of hundreds of people in one trip to outer space.

While space tourism has shown to be economically appealing, its impacts on the environment are undeniably negative. Virgin Galactic has announced its plans of performing around 400 trips to space per year, all of which have the potential of worsening the carbon footprint. The constant launching of such space travels has been predicted to make earth one-degree Celsius hotter, a consequence that has devastating impacts on the well-being of the environment.

Furthermore, due to the private nature of space travel, questions are raised about its regulations. While the Federal Aviation Administration (FAA) is responsible for the regulation of space travel, it does such in flexible and light ways. The FAA, for instance, does not have strong jurisdiction over environmental issues that might come with those flights, nor over some issues that are becoming increasingly important to tackle, such as the cybersecurity of space. It creates, then, the discussion of to what extent governments should interfere with space tourism and the commercialization of space travel.

Moreover, as earth's resources become increasingly scarce, states have looked into space exploration with a different perspective than before. The United States, Russia, and China all share the same interest in the exploration of

lunar resources, including Uranium for energy production, despite its harmful environmental impacts. Both China and the US have territory on the moon, with Russia in the process of achieving their own, with a growing non-violent conflict between such states as interests for those resources grow. Other states, such as the Netherlands, have not been favorable to this exploration, understanding the damage it might cost to both earth's environment and the moon's.

Definition of Key Terms

Space Tourism: "The activity of traveling into space for pleasure and interest, rather than as a job" as defined by the Cambridge dictionary. Space tourism is also a growing market, with its general target on the rich population, considering the prices of the trips. (<https://dictionary.cambridge.org>)

Private Sector: An important part of the economic system that is not run by the government. (<https://dictionary.cambridge.org>)

Carbon Footprint: The amount of greenhouse gas emitted by an individual or a group of people. (<https://dictionary.cambridge.org>)

Cybersecurity: "Cybersecurity is the art of protecting networks, devices, and data from unauthorized access or criminal use and the practice of ensuring confidentiality, integrity, and availability of information." as defined by the US Department of Homeland security." (<https://dictionary.cambridge.org>)

General Overview



Reuters photo - 2017

Private sector and Space tourism

The economic sector that is currently fueling advancements in space commercialization is the private sector. Especially in the US, it is only due to the private sector that there are ongoing and developing plans for such types of activities. The hold of American private companies in space is great to the point where most satellites in the US are privately owned, with a weak governmental control of such¹. This is considerably new, considering that most of the countries and companies, except for the USSR, would do their launchings and space-related activity through NASA, and only after the cold war ended that private companies started to develop an interest in space exploration. Furthermore, due to the novelty of the phenomena, legislation, and guidelines for proper space exploration have not been properly developed, and neither is it internationally applied. Other issues that have been raised with the development of space exploration for private companies regard the

¹ <https://sgp.fas.org/crs/space/R45416.pdf> (will put it in MLA)

transparency of the activities and the usage of money, all of which when properly dealt with can avoid cases of corruption.

States and the exploration of natural resources

Conflict between states for space exploration and the development of technology is not a recent topic. The cold war was remarkable for its contribution to technology, due to the space race between USA and USSR, allowing for the first trip to the moon to happen, as well as multiple other advancements in the area of Outerspace matters. Although the USSR no longer exists, a conflict between the USA, Russia, and even China, is still maintained in regard to space-related development. States now have a growing interest in the exploration of the moon and mars, particularly with two main goals in mind. Exploration of such would involve, first, the exploration of resources such as Uranium, which is in abundance on the moon, and secondly the beginning of a process of colonization of such areas. As states and companies further explore the earth's natural resources, and increasingly contribute to its deterioration, "finding a plan b" has become a matter of urgency to world leaders.

Outer Space law disputes and weapons

If an agreement in international law is already highly complicated and hard to achieve between states, Outerspace law becomes even more complex. One of the issues that have been put in question is the usage of weapons in Outerspace. The outer space treaty prohibits the use of nuclear weapons, however, it does not restrict the use of other normal weapons, even those commonly used in wars and that are highly destructive. Furthermore, legislation to control the use of weapons in Outerspace has been discussed in order to protect the maintenance of satellites, but it is not too concrete. Internationalists recommend better outlining of weapon usage in Outerspace in order to prevent future disasters.

Major Parties Involved and Their Views



China's Space Agency video commercial

United States

Albeit having one the most important aeronautics organization in the world, NASA, the USA has been pushing for private companies to develop themselves and start doing their own explorations of space. The development of such would, in the longer term, bring economical advantages to the US and to its national economy, even if the work being done in such companies isn't regulated to the same extent as statal organizations. Furthermore, the US has its own interest in the exploration of outer space natural resources and allowing private organizations to develop themselves and its technology facilitates the process of exploration of such planets.

China

Even though the biggest corporations in China are public institutions, there has been some effort to allow for the growth of commercialization of space and private companies. It is important to mention, however, that although those

companies are private, they are still highly connected to the state, either by funding dependence or another kind of state involvement. According to the National Bureau of Asian Research, "Innovation in China's space sector is largely dictated by the incumbents". The extent to which China allows for such private companies to flourish and develop is considerably less than the US's, however that is a greater sense of supervision as to what is being done in such companies and how that affects the general population, as opposed to the lack of such in the US. Tensions with the US also indicate a high willingness to explore outer space resources, and not allow for American institutions to outgrow the level of technology and advancement of Chinese institutions.

Russia

Although not as strong and influential as it once was, Russia's advancement in space technology is one of the most important in the world. Its ambition to develop Outerspace related tech has increased since the beginning of the war in Ukraine, with a growing interest in exploiting the use of such to reinforce national security. Furthermore, Russia's participation in space exploration is remarkable, with attempts similar to China and the US to explore their section of the moon and mars, finding itself once again in a space race.

Timeline of Events

| Date | Description of event |
|-------------|--|
| 1957 | USSR launches the first artificial space satellite, Sputnik, beginning the space race. |
| 1958 | American president Eisenhower establishes the National Aeronautics and Space Administration (NASA) |
| 1969 | |

Neil Armstrong becomes the first step onto the moon.

1991 The soviet union is dissolved, and relations between Russia and US in regards to space technology strengthen.

2001 Italian American Dennis Tito becomes the world's first space tourist. He paid 20 million dollars to Russia to stay on the ISS for eight days.

2008 SpaceX becomes the first private venture to successfully launch a rocket into Earth's orbit (Falcon 1)

UN involvement, Relevant Resolutions, Treaties and Events



60TH SESSION OF THE COMMITTEE ON THE PEACEFUL USES OF OUTER SPACE - 2017

- The "Outer Space Treaty" is one of the most essential treaties for the regulation of Outerspace affairs, where the exploration of the Moon and other celestial bodies have been outlined. This entered into force in 1967, and thus could be considered outdated, as well as broad

- Entered into force in 1984, the Moon agreement went over new regulations for the exploration of celestial bodies, with a specific focus on the moon
- There is a lack of modern treaties, or treaties that tackle the commercialization of space.

Evaluation of Previous Attempts to Resolve the Issue

Although regulations for Outerspace exploration have been outlined in the past to avoid such conflicts, they have not been completely successful. There has also been a lack of international regulations, with significant signatories, on the commercialization of space and the advancement of space tourism, considering the novelty of the topics being discussed.

Possible Solutions

Possible solutions include the outlining of regulations and international agreements in order to better control outer space exploration. The clauses which could be outlined might vary in accordance with the state's interest, but some form of the international body better regulating those activities is a recurrent request.

Sustainable Development Goal (SDG)

The sustainable Development Goal that better fits the topic is SDG 16, "Peace, justice, and strong institutions" since the debate is centered around the participation of institutions in the exploration and commercialization of Outerspace, and how that might be done peacefully and ethically. SDG 16 has the improvement of institutions as one of its main aims, and so does the topic being discussed, as it requires, to a certain extent, the development/reform of existing institutions.

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Appendix

- I. Study on China commercial space sector and its international implications
<https://www.nbr.org/publication/developments-in-chinas-commercial-space-sector/>
- II. Official UNOOSA outer space treaty that tackles to some extent some issues being here discussed
<https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/introouterspace-treaty.html>
- III. Analysis of the issues related to space tourism and current space globalization with both socioeconomic and scientific implications
<https://www.airuniversity.af.edu/Wild-Blue-Yonder/Article-Display/Article/2362296/conflict-and-controversy-in-the-space-domain-legalities-lethalities-and-celesti/>

