

UNOOSA

United Nations Office for Outer Space Affairs Privatizing Space Travel

Overview

As technology has advanced, humanity has pushed to use its developments to explore new lands and traverse massive oceans. However, our attention has now been laser-focused on the universe above us: space. From the discoveries of Galileo Galilei, the father of astronomy, and countless other scientists, humanity has been able to reach for the stars, its pinnacle being reached on the 16th of July 1969, when Apollo 11 landed on the Moon. The space race, fueled by the Cold War, reignited worldwide focus on increasing space-related progression and development. While countries such as the United States, the Russian Federation and other world superpowers began to send their own missions and satellites, global conglomerates and tech giants began exploring this field and its untold riches by sending their own satellites, rockets and missions.

The United Nations Office for Outer Space Affairs

The United Nations Office for Outer Space Affairs (UNOOSA), founded in 1958, is a committee that seeks to promote international cooperation relating to space exploration, space technology and space science.¹ The committee aims to help both countries and private entities promote space exploration in all its forms and hopes that advancements can be made for the greater good of humanity. While primarily focused on helping countries and states achieve space expansion, UNOOSA is focused on discussing and regulating the commercial side of mankind's greatest frontier: space travel on a private and denationalized level.

Definition of Private Space Travel

Throughout the 1960s, space was dominated by the two global superpowers: the Soviet Union and the United States of America. However, that did not deter private companies from trying to join the next big market: Private space travel. This newly developed concept involves space travel fully funded by private corporations that launch

¹ "About Us." *United Nations Office for Outer Space Affairs*, www.unoosa.org/oosa/en/aboutus/index.html. Accessed 12 Nov. 2023.

“various types of satellites- military, scientific, communication, and others- into space.”²

These forms of space travel also include more optimistic end goals such as asteroid mining and space tourism. The first object to ever be launched into space, fully funded by a private company, was in 1962 when the Telstar 1, a communications satellite built by AT&T Bell Telephone Laboratories and launched with the help of a NASA rocket.³ Ever since that day, companies have begun to build their own satellites, radars and telescopes to be hopefully brought up to the sky.

Many setbacks have occurred in this field, one of which still haunts American society to this day: the Challenger Disaster in 1986. What was supposed to be a day of optimism for normal citizens to venture to the stars turned to heartbreak after the shuttle exploded only 73 seconds after launch.⁴ Ever since that day, the shuttle program was shut down, and numerous investigations were conducted. Additionally, ethical dilemmas were posed as to whether or not mankind was ready enough to venture into the stars.

Nowadays, many other worldwide major problems have come to fruition: climate change, lack of resources and overpopulation will soon begin to threaten the earth’s livability. One solution agreed upon by many optimists is to continue the race toward the stars, and while corporations are still unclear as to whether or not they officially stand by this claim, it is undeniable that the space race has been restarted: not with countries, but with companies.

The Difference Between Public and Private Space Travel

Whenever rocket launches were televised on TV in the 20th century, NASA, a government-funded organization, would be presented as the project’s creator. Of course, having the largest quantity of physicists, engineers and rocket scientists at one’s disposal is crucial to being so successful. Yet, once the 21st century rolled over, private companies began to build their own rockets to send their payloads into space.

NASA is perhaps the most widely recognized non-private space agency in the world. According to Britannica, NASA is an “independent U.S. governmental agency established in 1958 for the research and development of vehicles and activities for the exploration of space within and outside Earth’s atmosphere.”⁵ Essentially, it is a government-led organization paid

² Stromberg, Joseph. “Private Spaceflight, Explained.” Vox, 6 Feb. 2015, www.vox.com/2015/2/6/18073658/private-space-flight.

³ “NASA - NSSDC - Spacecraft - Details.” NASA, <https://nssdc.gsfc.nasa.gov/nmc/spacecraft/display.action?id=1962-029A>. Accessed 26 Nov. 2023.

⁴ “Challenger Disaster.” *Encyclopædia Britannica*, Encyclopædia Britannica, inc., 16 Oct. 2023, www.britannica.com/event/Challenger-disaster.

⁵ “National Aeronautics and Space Administration.” *Encyclopædia Britannica*, Encyclopædia Britannica, inc., 26 Nov. 2023, www.britannica.com/topic/NASA.

for by tax dollars with a grander goal of helping out its citizens in the future. While this may seem ideal, there are both good and bad attributes to such an initiative: on the positive side, there is an unprecedented amount of knowledge that is being discovered, satellites continuing to improve the functioning of society, new industries forming and scientific advancements piquing humanity's innate curiosity.⁶ On the negative side, failures continue to mount up during any stage of space travel, a new international space race can bring back the tensions once rampant during the Cold War, and the only real benefits come after years and years of work.⁷ Additionally, there are multiple constraints and bureaucratic steps to reach the grand event of a rocket launch, not to mention the exorbitant costs: approximately \$152 million are used in a NASA rocket launch on average.⁸

Unlike public organizations, private space agencies are operated and funded by a private company for its own interests. While a public organization is funded by the government and works for its citizens' best interests, a private entity has its own goals set out. These can range from capitalistic motivations like asteroid mining and space tourism to more philosophical and scientific motivations like the exploration of the universe and the quest to find more life. While all this may seem philanthropic in nature, there is a key aspect to this equation: costs. Any private space agency must abide by the goals of a private company: pay its workers, continue to fund its research and development teams and generate profits.⁹ These are not minuscule numbers, however; to launch a rocket in 2023, one like SpaceX's Falcon 9 costs \$62 million.¹⁰ Of course, pioneers in the space industry claim that it could drop to \$10 million, but that may take decades to achieve, making production costs a serious issue.¹¹

Relevance to the Space Industry

There are three main niches in the space industry that are pertinent in the 21st century: space tourism, satellites and resource gathering (commonly known as asteroid mining).

⁶ "Space Exploration Pros and Cons: A Waste of Money?" *Netivist.Org*, <https://netivist.org/debate/space-exploration-pros-and-cons>. Accessed 26 Nov. 2023.

⁷ "Space Exploration Pros and Cons: A Waste of Money?" *Netivist.Org*, <https://netivist.org/debate/space-exploration-pros-and-cons>. Accessed 26 Nov. 2023.

⁸ Tangermann, Victor. "Elon Musk: SpaceX Launches Will Cost 1% of Current NASA Launches." *Futurism*, 6 Nov. 2019, <https://futurism.com/spacex-launch-cost-less-nasa>.

⁹ Lutkevich, Ben. "What Is the Private Sector?" *WhatIs.Com*, TechTarget, 22 Aug. 2022, <https://www.techtarget.com/whatis/definition/private-sector>.

¹⁰ Kramer, Miriam. "SpaceX's Starship Could Transform the Space Industry - Axios." *Axios*, 18 Apr. 2023, <https://www.axios.com/2023/04/18/spacex-starship-transform-industry>.

¹¹ Duffy, Kate. "Elon Musk Says He's 'Highly Confident' That SpaceX's Starship Rocket Launches Will Cost Less than \$10 Million within 2-3 Years." *Business Insider*, Business Insider, 11 Feb. 2022, <https://www.businessinsider.com/elon-musk-spacex-starship-rocket-update-flight-cost-million-2022-2>.

Space Tourism

Space tourism is giving “tourists the ability to become astronauts and experience space travel for recreational, leisure, or business purposes.”¹² Many people have already started to apply for a trip in one of these space adventures, and companies are very excited to finally start these vacations. A major player in this industry is Virgin Galactic, a publicly traded company founded in 2004 that has continuously innovated, created and launched manned rockets to one day be able to send tourists to space. Funded by the New Mexico state government, Virgin’s billionaire-funded space tourism is accessible to anyone willing to pay. This has proven slightly controversial, as taxpayers were required to fund the \$225 million launch base which “struggled with development issues” including fatal crashes for much of its lifetime.¹³ Their rocky history calls into question whether nations should fund independent space companies rather than focusing on governmental space programs. Nations must also decide if states within their country’s boundaries should be able to fund space programs, or if such decisions are federal matters only.

Satellites

Companies and governments launch satellites into orbit for various technological uses, including navigation systems, telecommunications and satellite radio.¹⁴ A leader in satellite communication is SES, a company that for the past 30 years, has sent satellites into orbit to provide connection between telecom companies and people. SES markets itself not only to businesses but to governments as well, promoting its services as beneficial to military technology in particular.¹⁵ Another notable example is Speedcast who also provide high-speed connectivity between continents and international companies.¹⁶ With global networks that connect major cities in Indonesia, Brazil, Portugal, Nigeria and others, the availability of Speedcast’s services makes it easy for governments or companies to use their services. The potential for governing bodies to utilize private companies to advance their space usage and capabilities shows how space privatization can affect both companies and nations alike.

¹² “Space Tourism.” *Space Tourism - an Overview* | ScienceDirect Topics,

<https://www.sciencedirect.com/topics/social-sciences/space-tourism>. Accessed 26 Nov. 2023.

¹³ Dinner, Josh. “Who Is Virgin Galactic and What Do They Do?” *Space.Com*, Space, 8 July 2021, <https://www.space.com/18993-virgin-galactic.html>.

¹⁴ Rome, Primož. “Every Satellite Orbiting Earth and Who Owns Them.” *Data Acquisition | Test and Measurement Solutions*, 9 Feb. 2023, <https://dewesoft.com/blog/every-satellite-orbiting-earth-and-who-owns-them>.

¹⁵ “About Us.” *SES*, 23 Oct. 2016, <https://www.ses.com/about-us>.

¹⁶ “What We Do - High Speed Communications Networks and Applications.” *Speedcast*, 2 Nov. 2023, <https://www.speedcast.com/about-us/what-we-do/>.

Asteroid Mining

Asteroids contain “trillions of dollars' worth of minerals and metals” to bring back to Earth or to use in the eventual construction of planetary colonies on Mars and other planets.¹⁷ Not only that, but it can also contain water, a key ingredient in maintaining these space colonies. The massive potential economic benefits of asteroid mining are what drives the creation of companies like Origin Space, a private Chinese business that aims to send satellites and machines into space to collect materials from asteroids.¹⁸ Origin Space has partnered with CASC, China’s primary “state-owned contractor” of space-related ventures.¹⁹ While the details of their deal and each party’s involvement are undisclosed, the Chinese government’s participation may imply that China, and potentially other countries, sees funding private business ventures as the future of space exploration and exploitation.

Consequences of Privatizing Space Travel

Ever since the Challenger Disaster in 1986 and the end of the Cold War, the Space Race has calmed down with many countries lessening spending towards their government space agencies. However, the increasing popularity of private space agencies has led to an increase in widespread interest in furthering space development and exploration. Before that occurs on a massive scale, however, one must consider the potential consequences, both helpful and harmful.

There are multiple economic benefits to having a private space agency. On a global scale, the worldwide space industry is massive, with a 2022 estimate measuring its value as \$464 billion, with over 75% of that coming from the commercial market.²⁰ To compete with one another, companies have started to hire more employees: in the period between 2016 and 2020, there has been an 18.4% increase in employment.²¹ The types of jobs in the space sector vary from engineers designing rockets, mathematicians and physicists predicting the

¹⁷ Bonsor, Kevin. “How Asteroid Mining Will Work.” *HowStuffWorks Science*, HowStuffWorks, 15 Aug. 2023, <https://science.howstuffworks.com/asteroid-mining.htm>.

¹⁸ Kulu, Erik. “Origin Space.” *Factories in Space*, <https://www.factoriesinspace.com/origin-space>. Accessed 26 Nov. 2023.

¹⁹ Jones, Andrew. “Chinese Space Resource Utilization Firm Origin Space Signs Deal for Space Telescope.” *SpaceNews*, January 23, 2023, <https://spacenews.com/chinese-space-resource-utilization-firm-origin-space-signs-deal-for-space-telescope/>.

²⁰ Vanleynseele, Estelle. “Value of Space Economy Reaches \$464 Billion in 2022 despite New Unforeseen Investment Concerns.” *Euroconsult*, 1 Mar. 2023, <https://www.euroconsult-ec.com/press-release/value-of-space-economy-reaches-424-billion-in-2022-despite-new-unforeseen-investment-concerns-2>.

²¹ Meltzer, David. “Recruiting and Retaining Staff in the Space Industry.” *SSPI*, 16 Nov. 2023, <https://www.sspi.org/articles/recruiting-and-retaining-staff-in-the-space-industry>.

flight path of the rocket, to even health professionals making sure astronauts are healthy.²² As such, countries are eager to fund private space firms to create jobs and strengthen the economy.

Additionally, there are multiple partnerships between government and private space agencies. One such successful collaboration is the Lunar Gateway, which sees government space agencies in the USA, Canada, Japan and the European Union working with private enterprises to create a lunar-orbiting space station that will serve as the midway point between the Moon and Mars.²³ Not only do these partnerships stimulate economic growth, but it also further scientific advancements in-between official mission parameters. These few examples are just the tip of the iceberg when it comes to private and public partnerships: there are hundreds of examples all around the world of government and private companies collaborating for mass benefit.

Before doing so, the negative attributes of private space travel must also be discussed. For one, it is clear that any enterprise related to the space industry is motivated by the eventual and massive profits it will make. But a bigger concern is the environmental damage: greenhouse emissions are released in unfathomable quantities for each rocket launch,²⁴ space debris will pollute the space surrounding the planet and it will perpetually hold a mortal danger for any astronaut venturing outside Earth.²⁵

Regarding climate change specifically, space-bound rockets release black carbon, a dangerous emission, during travel. It eventually falls back down to earth causing massive damage to the atmosphere. Black carbon is 500 times more potent than normal carbon emissions on earth,²⁶ making it an immediate threat to countries like Indonesia, whose capital city of Jakarta is projected to be underwater by 2050, a prediction that may worsen with increased spending towards space tourism.²⁷

²² "Types of Careers in the Space Sector." *Canadian Space Agency*, Gouvernement du Canada, 14 Feb. 2018, <https://www.asc-csa.gc.ca/eng/jobs/careers-in-space/>.

²³ "Public-Private Partnerships: A Catalyst for the Space Economy." *New Space Economy*, 22 June 2023, <https://newspaceeconomy.ca/2023/05/26/public-private-partnerships-a-catalyst-for-the-space-economy/>.

²⁴ Toor, Amber Kaur. "The Privatization of the Space Industry Is Negatively Affecting the Environment." *Scot Scoop News*, 29 Apr. 2022, <https://scotscoop.com/the-privatization-of-the-space-industry-is-negatively-affecting-the-environment/>.

²⁵ "Advantages and Disadvantages of Space Exploration - Soapboxie." *Soapboxie*, 1 Feb. 2023, <https://soapboxie.com/social-issues/Space-Exploration-Advantages-vs-Disadvantages>.

²⁶ McKenna, Phil. "Space Tourism Poses a Significant 'Risk to the Climate.'" *Inside Climate News*, June 30, 2022, <https://insideclimatenews.org/news/29062022/space-tourism-climate/>.

²⁷ Hussain, Zoya. "Explained: Why Indonesia's Jakarta Is The Fastest Sinking City In The World." April 9, 2022, <https://www.indiatimes.com/explainers/news/why-indonesias-jakarta-the-fastest-sinking-city-in-the-world-566454>

While all this holds true for government space agencies, a new question arises: will they take responsibility for their actions? While governments are bound by their voters, policies and laws, it is not uncommon for capitalistic companies to cut corners and maximize profit by decreasing their costs. This not only holds true for safety measures but also in terms of the materials they use for their rockets, how they are disposed of and what happens if companies are found culpable for their actions.

Current Treaties Between Countries and Private Entities

Governments understand that working with private enterprises can greatly accelerate space exploration. Just like in the business world, government contracts and partnerships are put in place to incentivize collaboration and unity. For example, the Commercial Crew Program began in 2010 with the NASA Authorization Act which allowed NASA to pursue partnerships with private space agencies to develop and integrate new crew transportation systems.²⁸ This led to NASA finalizing agreements with Boeing and SpaceX in 2014, allowing collaborative work in creating these systems to travel to and from low-orbit, including the ISS.²⁹

Other countries than the United States have also taken measures to enact relationships with private entities. India, a rising power in the space industry, has amended their Indian Space Policy to allow the integration of private space agencies in their “end-to-end” activities. This comes three years after the space sector was formally opened to private institutions. A significant aspect of this plan is that New Space Media, a government-affiliated space promotion platform, now aims to buy privately developed space technologies, promoting a new industry in the economy while simultaneously increasing the government’s ability to advance in the space race.³⁰ This cycle of promotion could influence other countries to introduce a similar, mutually beneficial relationship with its independent space companies.

²⁸ “NASA’s Commercial Crew Program: A Look at Its History, Challenges, and Benefits.” *New Space Economy*, 6 Nov. 2023, <https://newspaceeconomy.ca/2023/03/31/nasas-commercial-crew-program-a-look-at-its-history-challenges-benefits-pros-and-atm-cons/>.

²⁹ “Commercial Crew Program.” *Performance.Gov*, <https://obamaadministration.archives.performance.gov/content/commercial-crew-program.html>. Accessed 26 Nov. 2023.

³⁰ Patil, Apoorva. “Indian Space Policy: Distinct Roles for Private and Government Entities.” *IndiaTimes*, 25 Apr. 2023, <https://www.indiatimes.com/explainers/news/indian-space-policy-600336.html>.

Questions to Consider

1. Does your country proactively help in the expansion of private space travel?
2. Should your country pursue collaboration with private entities in regard to space travel, or should the state nationalize it and take full control of the operations?
3. Are there any current frameworks or regulations put in place by your country that address private space travel?
4. Have any problems with private companies arisen from your country's meddling in space travel?
5. How can your country benefit from privatizing space travel? Is it worth the work and economic strain on society?
6. Should there be international regulations and policies adopted by UNOOSA to make the space race equal for all participants? (Sanctions, the equal partition of resources and land, etc)

Useful Delegate Resources

[UNOOSA](#)

[The privatized frontier: the ethical implications and role of private companies in space exploration](#)

[Americans' Views of Space: U.S. Role, NASA Priorities and Impact of Private Companies |](#)

[Pew Research Center](#)

[The Pros And Cons Of Privatizing Space Exploration](#)

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