

Moving Into Outer Space

With the (renewed) focus on space missions and the diversification of the parties capable of playing a significant role therein, time has come to reassess the current principles underpinning space exploration to see whether these need updating. That is the subject of this case study.

At present, some 4,500 satellites circle Earth, providing communication services and navigation tools, monitoring weather, observing the universe, spying and doing more besides. Getting them there was once the business of superpowers' armed forces and space agencies. Now, it is mostly done by companies and the governments of developing countries.

During the early years of the space race reaching orbit was hard. Between 1957 and 1962, 32% of American launches and 30% of Soviet ones failed. Only states could assume such risks – and even if American firms had wanted to bear them, its government would not let them on national-security grounds. Companies eager to send objects into space, including telecoms firms, had to hitch a ride with NASA. This changed when European countries started building launchers through a mostly state-owned company called Arianespace, which touted for custom among satellite-makers around the world. When the space shuttle *Challenger* exploded in 1986, NASA got out of the satellite-launching business. It and, later, the Pentagon became new customers for private launch firms, alongside the satellite operators.

In the past decade, the West's space-launch market has become more competitive thanks to an innovative new entrant, SpaceX. But state-run programmes still lead the way in emerging markets. In 2003, China became the third country to launch a person into orbit; India plans to follow suit in 2022. Both sell launch services to private clients. Like their cold-war predecessors, these Asian titans have strategic goals as well as thirst for publicity. They need independent access to space for communication, intelligence and navigation. However much commercialised space gets, the competition will never be solely economic.

How should space exploration be governed? Space is a commons. At least, that was determined in the 1950s by a UN committee, and laid out a decade later in the Outer Space Treaty. No country can lay claim to the moon, asteroids or other celestial bodies; space is open to all for exploration. The language of early treaties is notably grand, with space referred to as the 'province of all mankind'. Developed in the 1950s and '60s, space law is state-centric and arguably ill-suited to a commercial future.

We therefore challenge you to take a 'fresh' look at how our ventures into outer space should be governed by:

- Identifying the top 10 policy and/or regulatory issues that may arise among space exploring parties (public and private), between those parties and the 'rest of our world', but also between those who



moved into outer space and those who stayed back on Earth – for example, you could think about property claims, space pollution/garbage, space war); and

- Drawing up the foundation on which you believe this new (dimension of) society ought to be built taking into account the issues you have identified. Please also explain how this should be implemented in practice.

Make sure you present your outcomes in an appealing way!