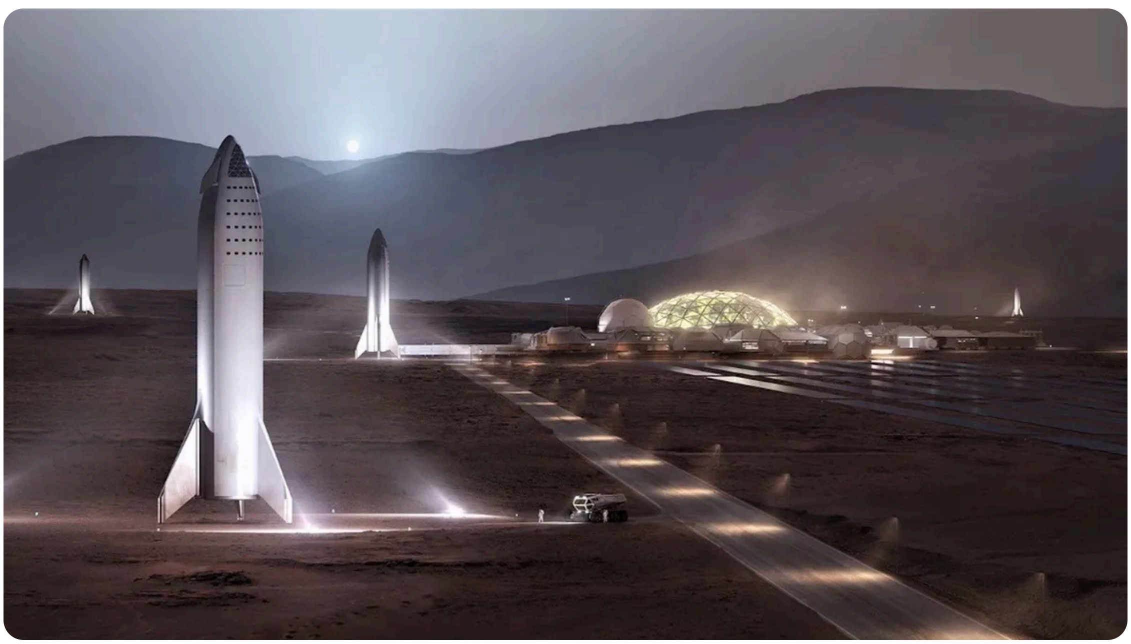
EXPERT VOICES OP-ED & INSIGHTS

# What history can teach us about the future of property rights in space (op-ed)

News By Rainer Zitelmann | Published 21 hours ago

If SpaceX begins building permanent settlements on Mars, then ownership of some Red Planet land should initially belong to the company.



SpaceX aims to help establish a human settlement on Mars. But under current space law, companies cannot own any land on the Red Planet, or any other celestial body. (Image credit: SpaceX)

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Without property rights in space, one of the most important economic incentives for the commercial development — and ultimately the settlement — of celestial bodies is missing. The 1967 Outer Space Treaty prohibits states from claiming sovereignty over celestial bodies or land on them. The underlying idea reflected the dominant thinking of the time: space belongs to all mankind.

The question of whether private individuals or companies may acquire property rights remains unresolved. The treaty says nothing explicitly about private ownership, largely because in the 1960s hardly anyone imagined that, just a few decades later, entrepreneurs such as Elon Musk or Jeff Bezos would possess the financial resources and technological expertise to accomplish what was then thought possible only for governments.

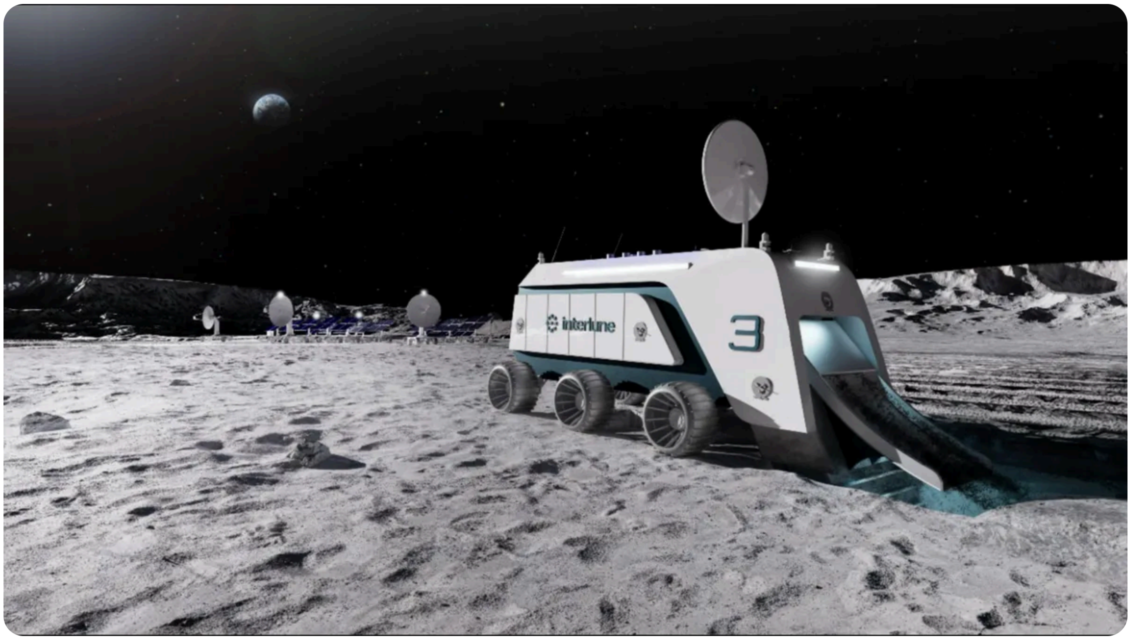
The absence of property rights is one important reason why humanity has made less progress in the exploration and development of space than many expected. Once the United States had won the race to the moon, the incentive for the next stage of space exploration largely disappeared.

Consider a thought experiment. Imagine that whoever reaches an asteroid with a spacecraft and begins mining it acquires the right to claim ownership of that asteroid and list it on the stock market as a real estate investment trust (REIT). Or imagine that whoever reaches Mars and begins constructing a settlement — whether with robots or eventually with human settlers — gains the right to declare the surrounding land as private property. Such rights would create extraordinarily powerful economic incentives. Today, by contrast, the legal position of private actors is, at best, uncertain. A genuine race to reach these celestial bodies would begin, and investors would emerge to finance these ambitious ventures.



There are good reasons to believe, however, that this process will begin even without a clear legal framework. History suggests that this is not the exception but the rule. Consider the settlement of the American West. In his classic book "The Mystery of Capital," the renowned economist Hernando de Soto described the process as follows:

"America was filling up with immigrants, who settled boundaries, ploughed fields, built homes, transferred land and established credit long before governments conferred on them any right to engage in these acts. Those were the days of the pioneers and the 'Wild West.' One of the reasons it was so wild was that those pioneers, most of them nothing but squatters, insisted that their labor, not formal paper titles or arbitrary boundary lines, gave land value and established ownership. They believed that if they occupied the land and improved it with houses and farms, it was theirs."



Artist's illustration of a lunar harvester developed by the company Interlune, which aims to extract and exploit moon resources such as helium-3. (Image credit: Interlune)

Contrary to a common misconception, property rights did not initially emerge through formal acts of government imposed from above. They evolved spontaneously from below. As de Soto explains: "To be legitimate, a right does not necessarily have to be defined by formal law. That a group of people strongly supports a particular convention is enough for it to be upheld as a right and defended against formal law." Only later, during America's early history, did governments formally legalize what settlers had already established in practice.

Capitalism, unlike socialism, develops as a spontaneous order from below. We have seen this pattern repeated in more recent history, particularly in former communist countries such as China and Vietnam.

Long before the official ban on private farming was lifted in 1982, peasants across China spontaneously reintroduced private ownership in defiance of socialist doctrine. The results were remarkable. Agricultural production rose rapidly, and recurring food shortages came to an end. By 1983, almost all agriculture in China had been decollectivized.



The story was similar in Vietnam. Following the market-oriented reforms launched in 1986, poverty declined from nearly 80% to just 3%. Yet many of these reforms merely legalized developments that had already taken place at the grassroots level. Agricultural collectives and even state-owned enterprises increasingly ignored official regulations. They abandoned collective production and entered into unauthorized contracts ("Khoán chui") between collectives and families or between state farms and private traders. This became known as "Phá rào," or "fence breaking."

Some scholars argue that these spontaneous grassroots developments — not decisions by the Communist Party — were the true driving force behind Vietnam's reforms. As Vietnamese researcher Vu Le Thao Chi explains, "It is closer to the truth of the matter that the state served more as an agent of adjustments and, in this, sanctioned the manner of the ordinary farmers' efforts to survive the unpredictably winding path." Economist Tran Thi Anh-Dao and other scholars likewise argue that Vietnam's reform process began "with evidence-based practices at the microeconomic (local) level that were then applied at the macroeconomic (national) level."

In my recently published book "New Space Capitalism," where I discuss the legal issues in detail, I answer the question "Who should have the right to acquire property in space?" as follows: Those who have the financial resources and are willing to take the risks necessary to get there, develop the land, and put it to productive use.

If SpaceX succeeds in reaching Mars and begins building permanent settlements on the Red Planet, then ownership of land should initially belong to SpaceX. Not the entire planet, of course, but a practical area — for example, roughly the size of Singapore. Since the surface area of Mars is approximately 200,000 times larger than Singapore, SpaceX would initially own only about 0.0005% of the planet. That would be sufficient to establish multiple settlements while leaving more than enough room for future competitors.

SpaceX could finance its transportation and development costs by placing this Martian land into a real estate investment trust (REIT) and listing it on the stock exchange. The market would determine its value.

The same principle could apply to asteroids. At least in the case of smaller celestial bodies, ownership could be granted to those capable of mining valuable resources such as water or platinum. The most practical solution would likely be to place the entire asteroid into a publicly traded REIT. Investors would finance the mining operations, while shareholders would ultimately receive dividends generated by resource extraction. Even before the first dollar of revenue was earned or the first dividend paid, a functioning market for these shares could emerge.

This is, of course, only a thought experiment. But it shows one way in which property in space could come into existence, creating the foundation for humanity to unlock the vast economic potential of space.



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