

In the Wild West of corporate space travel, humans could return to the moon. But does it bring diplomatic challenges?

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Mai'a Cross, dean's professor of political science, international affairs and diplomacy, director of the Center for International Affairs and World Cultures at Northeastern University. Credit: Matthew Modoono/Northeastern University



When Pittsburgh-based company Astrobiotic Technology launched its fuel-efficient, NASA-backed flight to the moon, hopes were high that it would be the first U.S. moon landing in more than 50 years. But a fuel leak resulted in the company pulling the plug on the landing and in NASA <u>delaying its plans</u> to return humans to the surface of the moon by a year as part of its Artemis program.

The failure of Astrobiotic's landing is a reminder that even though <u>space exploration</u> is now spearheaded by companies, not countries, the challenges of space travel remain the same. But Mai'a Cross, dean's professor of <u>political science</u>, <u>international affairs</u> and diplomacy, director of the Center for International Affairs and World Cultures at Northeastern University, says it should also show the public how important space diplomacy is in what she says is a Wild West age of corporate moon launches.

"The fact that basically around half of the attempts to land a rover on the moon fail and yet people persist and try to achieve it, that something as straightforward as that is still challenging to achieve, it makes much more sense to cooperate than to try to weaponize and fight wars in space," Cross says.

When Cross sees a company like Astrobiotic launching its Peregrine lander, she sees the dual-edged nature of the current corporate-led space age.

There are clear reasons why the U.S. hasn't sent humans back to the moon in more than 50 years. It's not only technically challenging and expensive but risky. Infamous space shuttle disasters like Challenger in 1986 and Columbia in 2003 "changed the national mood and the willingness of U.S. presidents to put a lot of funding into NASA," Cross says. Operations shifted to non-human, robotic missions, which have continued "in a robust way" over the last couple of decades.



But the shift to private companies leading the way in space exploration has opened the doors for a flurry of innovation and the potential for sending humans back to the moon, Cross says, even as it creates regulatory challenges for governments around the world.

"It was really with the advent of the reusable rocket that SpaceX managed to create that opened up the landscape for thinking about sending humans back into space," Cross says. "So much of this has been so dependent on specific political leaders who are interested or not interested in space exploration, but once the private companies started really creating an ecosystem of their own and space travel became dramatically cheaper, this idea of going back to the moon became prominent."

About <u>80%</u> of the space economy is now dominated by companies like SpaceX, Blue Origin and Virgin Galactic. Even though many of these companies receive funding from <u>government agencies</u> like NASA, governments don't have to rely on <u>taxpayer dollars</u> as much to fund <u>space missions</u> and can leverage <u>innovative technologies</u> created by companies that now have financial incentives to invest in space tech.

The involvement of the private sector also helps open the doors for more diplomatic conversations about the future of humanity in space. It makes Cross "cautiously optimistic" that the competitive, sometimes militaristic space race rhetoric won't dominate international discourse.

"When you see the most exciting, latest advancements, they are all cooperative," Cross says. "They increasingly involve private companies, and private companies don't want a war in space—they want profit out of space technologies."

"Space is such a difficult domain to exist in and take advantage of that it makes much more sense for countries of the world to cooperate in trying



to explore further rather than to compete," Cross adds.

While space exploration wouldn't be where it is without corporations innovating, Cross says more companies attempting to launch to the moon and beyond complicates space diplomacy in key ways.

There is very little regulation when it comes to corporate space exploration. When the Outer Space Treaty was originally drafted by the United Nations in the 1960s, there was little indication that companies, not countries, would be charting the moon and stars.

"One of the issues that emerges is that private companies see space exploration as profitable because they can mine certain resources in space that are very rare on Earth, but the spirit of the original Outer Space Treaty was that you can't have ownership of anything in space," Cross says. "Now you have a situation where, if anything, the regulation points to private companies not being able to mine in <u>outer space</u>, but if we're going to have this space age that also benefits governments, they need to be able to do that to some extent."

To date, the <u>Artemis Accords</u> are the most serious effort to resolve diplomatic complications like this. If NASA wants Artemis launches, like Peregrine, to both get off the ground and succeed in the long term, Cross says the path forward might involve giving private companies a seat at the table—and not just when it comes to exploring space.

"Increasingly, governments are realizing that they need to bring private actors into the room as well when they're talking about the future of space and norms and regulations that need to emerge out of that," Cross says.

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