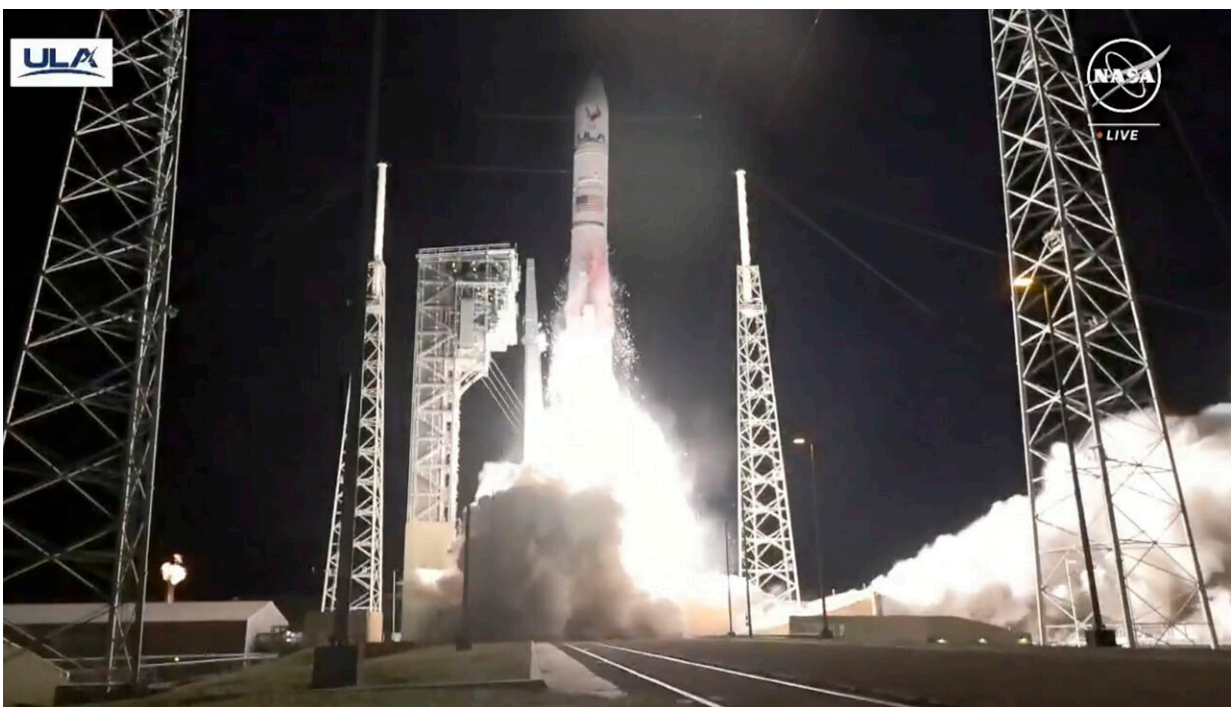


First US lunar lander in more than 50 years rockets toward moon with commercial deliveries

January 8 2024, by Marcia Dunn



In this image made from NASA video, United Launch Alliance's Vulcan rocket with Astrobotic Technology's lander onboard is launched from Cape Canaveral Space Force Station in Florida, Monday, Jan 8, 2024. The first U.S. lunar lander in more than 50 years rocketed toward the moon Monday, launching private companies on a space race to make deliveries for NASA and other customers. Credit: NASA via AP

The first U.S. lunar lander in more than 50 years rocketed toward the moon Monday, launching private companies on a space race to make deliveries for NASA and other customers.

Astrobotic Technology's [lander](#) caught a ride on a brand new rocket, United Launch Alliance's Vulcan. The Vulcan streaked through the Florida predawn sky, putting the spacecraft on a roundabout route to the [moon](#) that should culminate with an attempted landing on Feb. 23.

"So, so, so excited. We are on our way to the moon!" Astrobotic chief executive John Thornton said.

The Pittsburgh company aims to be the [first private business to successfully land](#) on the moon, something only four countries have accomplished. But a Houston company also has a lander ready to fly, and could beat it to the lunar surface, taking a more direct path.

"First to launch. First to land is TBD," to be determined, Thornton noted.

NASA gave the two companies millions to build and fly their own lunar landers. The [space agency](#) wants the privately owned landers to scope out the place before astronauts arrive while delivering NASA tech and science experiments as well as odds and ends for other customers. Astrobotic's contract for the Peregrine lander: \$108 million.



United Launch Alliance launches its next-generation Vulcan rocket on its maiden flight at 2:18 a.m. EST Monday Jan. 8, 2024, from Launch Complex 41 at Cape Canaveral Space Force Station in Florida. Credit: Malcolm Denmark/Florida Today via AP

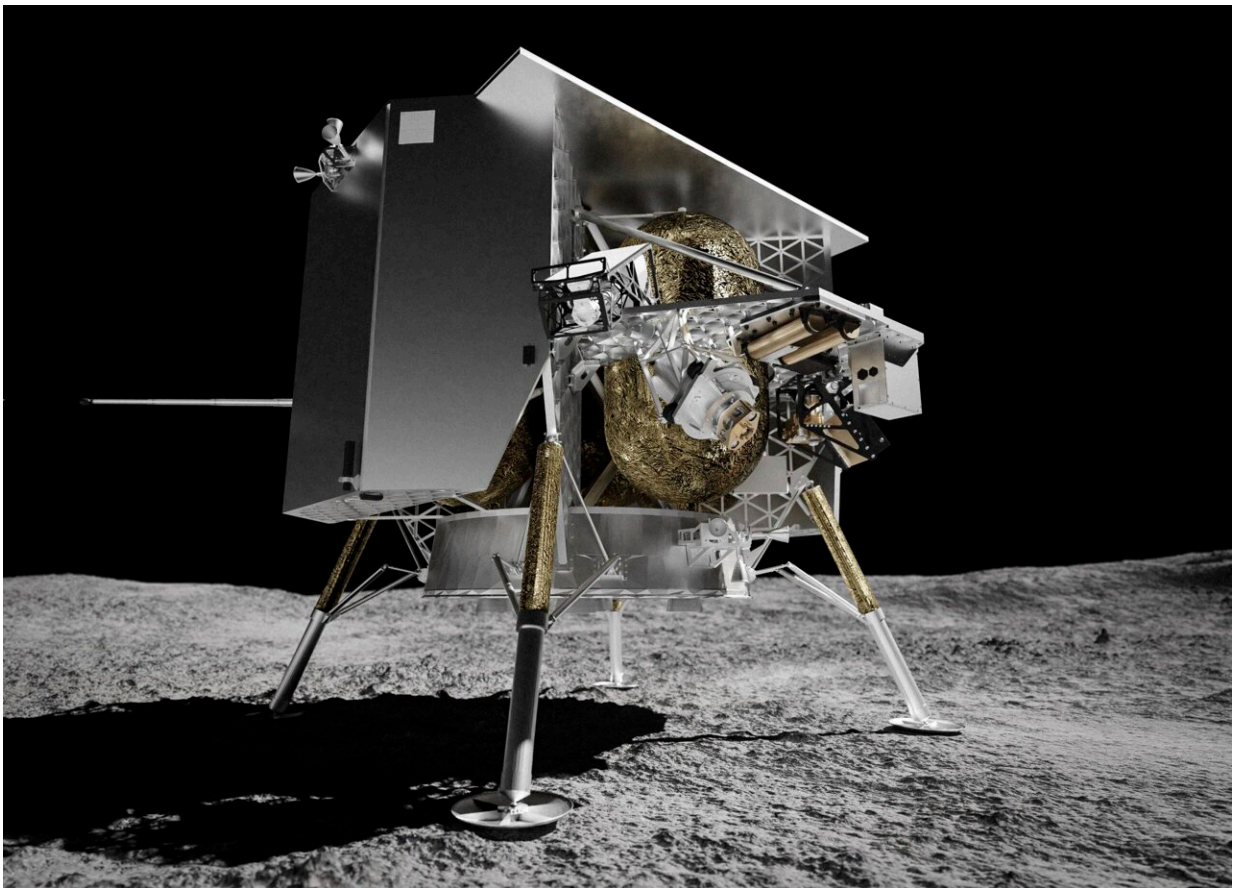
The last time the U.S. launched a moon-landing mission was in December 1972. Apollo 17's Gene Cernan and Harrison Schmitt became the 11th and 12th men to walk on the moon, closing out an era that has remained NASA's pinnacle.

The space agency's new Artemis program—named after the twin sister of Apollo in Greek mythology—looks to return astronauts to the moon's surface within the next few years. First will be a [lunar fly-around with four astronauts](#), possibly before the end of the year.

Highlighting Monday's moonshot was the long-delayed initial test flight

of the Vulcan rocket from Cape Canaveral Space Force Station. The 202-foot (61-meter) rocket is essentially an upgraded version of ULA's hugely successful workhorse Atlas V, which is being phased out along with the company's Delta IV. Jeff Bezos' rocket company, Blue Origin, provided the Vulcan's two main engines.

ULA declared success once the lander was free of the rocket's upper stage, nearly an hour into the flight. "Yee-haw!" shouted chief executive Tory Bruno. "I am so thrilled, I can't tell you how much."



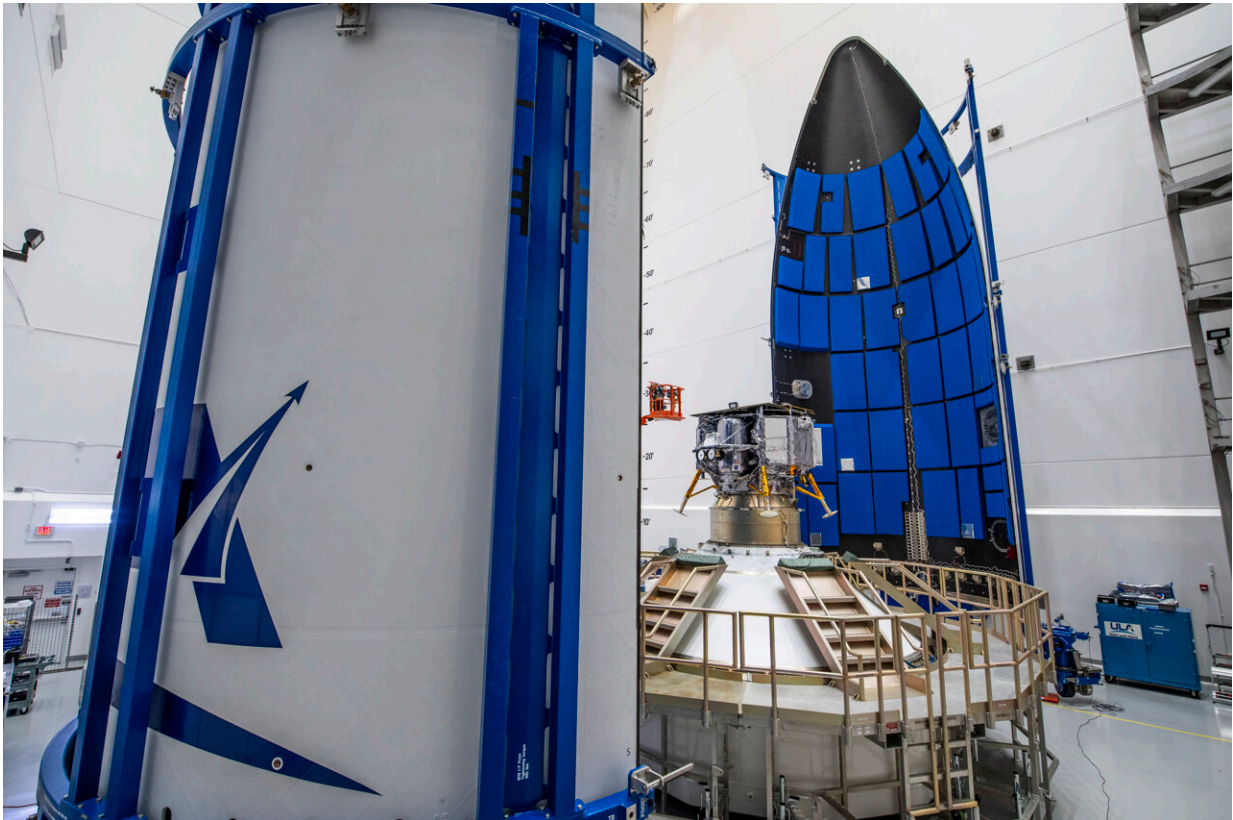
This illustration provided by Astrobotic Technology in 2024 depicts the Peregrine lunar lander on the surface of the moon. Its expected launch date is Monday, Jan. 8, 2024. Credit: Astrobotic Technology via AP

The Soviet Union and the U.S. racked up a string of successful moon landings in the 1960s and 70s, before putting touchdowns on pause. China joined the elite club in 2013 and [India in 2023](#). But last year also saw landers from Russia and a private Japanese company slam into the moon. An Israeli nonprofit crashed in 2019.

Next month, SpaceX will provide the lift for a lander from Intuitive Machines. The Nova-C lander's more direct one-week route could see both spacecraft attempting to land within days or even hours of one another.

The hourlong descent to the lunar surface—by far the biggest challenge—will be "exciting, nail-biting, terrifying all at once," Thornton said.

Besides flying experiments for NASA, Astrobotic drummed up its own freight business, packing the 6-foot-tall (1.9-meter-tall) Peregrine lander with everything from a chip of rock from Mount Everest and toy-size cars from Mexico that will catapult to the [lunar surface](#) and cruise around, to the ashes and DNA of deceased space enthusiasts, including "Star Trek" creator Gene Roddenberry and science fiction writer Arthur C. Clarke.



In this photo provided by United Launch Alliance, the Astrobotic Peregrine lunar lander is prepared for encapsulation in a payload fairing for launch atop a United Launch Alliance Vulcan rocket in Cape Canaveral, Fla., in December 2023. The expected launch date is Monday, Jan. 8, 2024. Credit: United Launch Alliance via AP



This photo provided by Astrobotic Technology shows the Peregrine lunar lander at the company's facility in Pittsburgh in October 2023. The expected launch date is Monday, Jan. 8, 2024. Credit: Jordan K Reynolds/Astrobotic Technology via AP

The Navajo Nation recently sought to have the launch delayed because of the human remains. saying it would be a "profound desecration" of a celestial body revered by Native Americans. Thornton said the December objections came too late but promised to try to find "a good path forward" with the Navajo for future missions.

One of the spaceflight memorial companies that bought room on the lander, Celestis, said in a statement that no single culture or religion owns the moon and should not be able to veto a mission. More remains

are on the rocket's upper stage, which was boosted into a perpetual orbit around the sun reaching as far out as Mars.

Cargo fares for Peregrine ranged from a few hundred dollars to \$1.2 million per kilogram (2.2 pounds), not nearly enough for Astrobotic to break even. But for this first flight, that's not the point, according to Thornton.

"A lot of people's dreams and hopes are riding on this," he said.

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