

NASA dangles \$7 billion carrot for next moon landing

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The agency that sent humans to the moon 50 years ago is offering \$7 billion to take the first steps for a U.S. return to the lunar surface within five years.

NASA is seeking U.S. companies that can deliver cargo, experiments and supplies to a spacecraft named Gateway in [lunar orbit](#) as part of the planned Artemis landing mission. It's the largest of several proposals unveiled since May as the agency accelerates work to return to space, with the eventual goal of reaching Mars.

The agency is still lobbying Congress and President Donald Trump to sign off on Artemis, which may require as much as \$30 billion to complete the task by 2024, NASA administrator James Bridenstine said on CNN in June. He later declined, in testifying to a Senate committee, to pin

down an estimate. In May, Trump upped NASA's budget for next year.

"We've put an end to decades of budget cuts and decline," Vice President Mike Pence said Aug. 20 at a Virginia meeting of the National Space Council. "We've renewed America's commitment to human space exploration, vowing to go further into space, farther and faster than ever before."

The U.S. 2024 landing target would be ahead of the goal set by China, which wants to have its astronauts at a research station at the south pole in the 2030s. India in July launched its second lunar mission, with a south pole landing scheduled for early September.

NASA's lunar plan is a two-stage approach: landing on the [moon](#) by 2024 and establishing a sustained base on and in orbit by 2028. From the moon, the U.S. plans to send men and women to Mars.

"Fifty years ago we had Apollo," Bridenstine said at the Space Council meeting. "It just so happens that in Greek mythology, Apollo had a twin sister, her name was Artemis, she was the goddess of the moon."

This month, NASA sought proposals from companies for a system to carry supplies and other items on a commercial rocket to the small Gateway station for six months of docked operations. The craft would be used for storage and trash.

"This solicitation builds on the capabilities NASA pioneered in low-Earth orbit with commercial cargo resupply to the International Space Station and is the next step in commercialization of deep space," Bridenstine said in a statement.

A month ago, NASA sought bids for a \$2.6 billion contract to build the next generation of lunar landers, including vehicles that can handle heavier payloads and touch down at the moon's [south pole](#),

according to a July 30 announcement.

The agency in May awarded its first contracts for the moon mission - \$375 million to Maxar Technologies Inc. of Westminster, Colo., to develop power and propulsion systems, components needed to land astronauts on the moon by 2024. The contract was more than Maxar's market value at the time.

The agency has approved more than \$150 million for specific unmanned landing tasks. Astrobotic Technology Inc. of Pittsburgh won a \$79.5 million contract to fly payloads to Lacus Mortis, a large crater on the moon's near side, and Intuitive Machines of Houston was awarded \$77 million to carry payloads to Oceanus Procellarum, a scientifically intriguing dark spot on the moon. Both are to land by July 2021.

The U.S., which in July marked a half-century since Neil Armstrong first set foot on the moon, spent an estimated \$28 billion to fulfill President John F. Kennedy's lunar landing pledge. Adjusted for inflation, the cost by today's measure is \$288 billion, according to the Planetary Society, which was founded by astrophysicists including Carl Sagan.

The proposal issued this month by NASA could be for as long as 15 years with a value capped at \$7 billion. More than one company could qualify. NASA is also asking that proposal include ideas about spacecraft design, cargo mass capability, pressurized volume, power availability for payloads and, transit time to Gateway.

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