United Arab Emirates to build NASA Gateway airlock, send astronaut on Artemis mission

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NASA has onboarded another integral partner to its lunar plans by striking a deal with the United Arab Emirates to build part of its lunar

Gateway space station and send one of the Arab country's astronauts on a future Artemis mission.

The deal with the Mohammed bin Rashid Space Center means the UAE will be responsible for providing the Crew and Science Airlock module to the small station that will act as a temporary home for astronauts during crewed missions at first to the moon, but in time to deep-space destinations including Mars.

It also means a UAE astronaut will get to fly to the station building on the small country's burgeoning space program that most recently sent its second astronaut to space as part of the six-month-long Crew-6 mission to the International Space Station in 2023.

"As chair of the National Space Council, I have made it a priority to enhance international cooperation in space," said Vice President Kamala Harris in a press release. "Today's announcement and partnership between the United States and United Arab Emirates advances this important work. By combining our resources, scientific capacity, and technical skill, the U.S. and UAE will further our collective vision for space and ensure it presents extraordinary opportunities for everyone here on Earth."

The UAE joins the U.S., European Space Agency, Japan and Canada among partners on Artemis projects. Russia, which is a partner with the ISS, opted out of involvement with NASA's moon plans.

Ahead of his flight on Crew-6, UAE astronaut Sultan AlNeyadi voiced his hopes his country would have a bigger role to play in deep space.

"We are looking toward missions further into space are looking to join Artemis hopefully in the future. I would love to see a UAE flag on the lunar surface carried on the shoulder of a UAE astronaut," he said. "Yes

I think the UAE is doing a very good job and in the coming 10 years I think we'll be following the international efforts toward going to space and pushing the boundaries of exploration."

He followed the first UAE astronaut, Hazzaa Al-Mansoori, who flew to the space station for an eight-day stay in 2019 in a Soyuz capsule riding with Russian cosmonauts. AlNeyadi and AlMansoori were the first two selected for the country's program when it put the call out in 2017, chosen in 2018 among 4,000 applicants. Already, two other UAE astronauts continue to train with NASA in Houston for consideration on future flights.

The UAE's space program has a lot of parts in play. It launched a probe to Mars in 2020 that successfully entered orbit in 2021 and in 2022 had sent a rover as a passenger on a commercial lunar lander that was destroyed when that lander failed to make a successful soft landing several months later in 2023. Those missions along with Earth observation satellites and its growing astronaut plans are the realization of the four facets of the UAE space center that was established in 2006. Its new astronaut class includes the country's first woman as well.

Making a flight to Gateway doesn't mean the UAE astronaut will walk on the moon, though.

Having completed the successful uncrewed Artemis I flight in 2022, NASA is gearing up to send Artemis II with three NASA and one Canadian astronaut on a short trip around the moon as early as November this year. NASA's current timeline still puts Artemis III as early as December 2025. That's supposed to be the first mission to send humans, including the first woman, back to the surface of the moon since the end of the Apollo program in 1972.

That mission, though, is dependent on SpaceX completing its Starship

and Super Heavy rocket as well as Axiom Space completing new deep-space spacesuits.

NASA's Jim Free, who recently took on the role of Associate Administrator, the top civil servant in NASA, said in 2023 that SpaceX or other commercial partner delays tied to a lunar landing could mean a shuffle in Artemis missions so that Gateway plans move up the manifest.

Gateway's timeline for now is tied to Artemis IV, currently on NASA's long-term budget to not occur until at least 2028. It's designed to fly with a bigger version of the Space Launch System rocket with more payload space that has yet to be constructed.

NASA announced it would detail Artemis mission updates during a press conference this Tuesday.

Gateway, which is planned to be about one-sixth the size of the ISS, will offer pressurized temporary living quarters about the size of a studio apartment, and act as a command center for lunar missions. It will feature docking ports for spacecraft like the Orion but also lunar landers and resupply craft.

The outpost is not meant for continuous human presence, but will have the power element as well as the eventual addition of a habitation space, capable of supporting four astronauts for 30 to 60 days.

For the UAE, which will also provide continued engineering support for Gateway, the airlock its providing will allow for crew and science to move from the station's pressurized habitable environment into the vacuum of space. This will be the entry and exit point for astronauts to perform spacewalks such as maintenance on the station and allow for more deep-space science.

"The United States and the United Arab Emirates are marking a historic moment in our nations' collaboration in space, and the future of human space exploration," said NASA Administrator Bill Nelson said in the release.

"We are in a new era of exploration through Artemis—strengthened by the peaceful and international exploration of space. The UAE's provision of the airlock to Gateway will allow astronauts to conduct groundbreaking science in deep space and prepare to one day send humanity to Mars."