

To return to the Moon, astronauts need new spacesuits

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A prototype of a lunar spacesuit developed at the University of North Dakota

Space engineer Pablo de Leon has designed two spacesuit prototypes for the Moon and for Mars, and knows how long development takes.

If NASA wants to meet its own deadline of returning to the Moon by 2024, it needs to get a move on.

"NASA still doesn't have a suit because the decision was taken suddenly," explained the Argentine engineer, who is the director of a lab at the University of North Dakota financed by NASA and dedicated to crewed [space flight](#).

"On the one hand, there's this order to get to the Moon by 2024, and on the other, we haven't developed new spacesuits since 1977," de Leon told AFP during a recent visit to the Kennedy Space Center in Florida.

The suits currently worn by American astronauts on the International Space Station—which aren't suitable for surface exploration—were designed in the 1970s, and patched up since. Only a few remain in working condition.

For the time being, NASA is focused on the development of the rocket, capsule and lander to take astronauts to the [lunar surface](#). The suit will come later.

But for de Leon, NASA's current overall budget of around \$21 billion a year isn't enough to meet the deadline of 2024, calling it "too optimistic."

Dangerous dust

De Leon and his teams have developed the NDX-1 suit for Mars and NDX-2 for the Moon.

A spacesuit is "a machine as complex as a spacecraft" because it needs to regulate temperature, pressure and humidity. It also protects astronauts against radiation and holds communications systems.

"All this in a piece of clothing," he said.

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