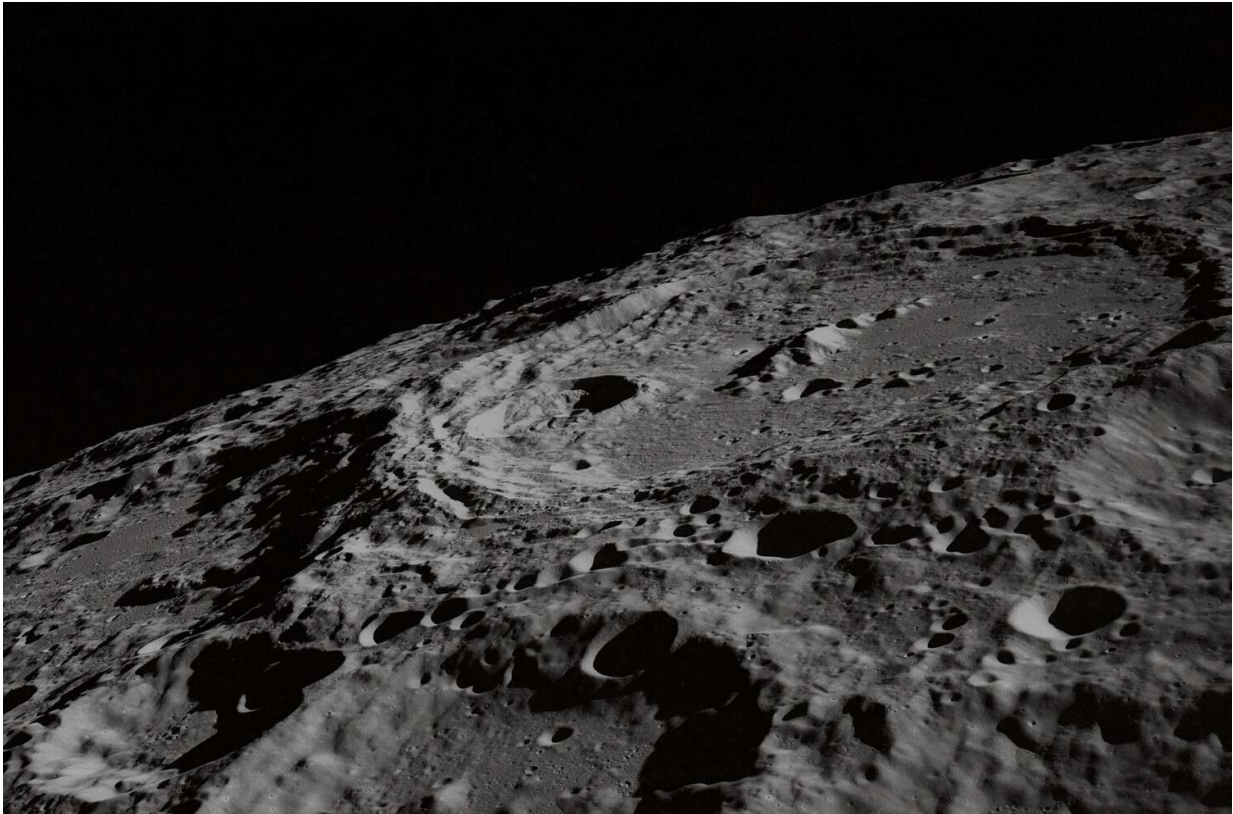


# Florida startup boldly sets sights on moon

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Florida startup Moon Express is setting its sights high: ambitiously shooting to become the first private company to launch a small, unmanned craft to the moon before the year's out.

A big success could pave the way for scheduled flights to deliver

scientific and exploration equipment, to exploit lunar soil resources and commercial potential.

In a recent interview with AFP, CEO and co-founder Robert Richards acknowledged that it is a "very optimistic date given that the rocket has yet to achieve orbit and given we are still building our vehicle."

The race to try this first flight on a tight deadline was motivated at least in part by the \$20 million offered by the Google Lunar X-prize in 2007.

The condition: be a private entity and launch a craft to the [moon's](#) surface by December 31, 2017.

Another condition will be, once on the moon, to move the ship or a robot on board, over 500 yards (meters), and to transmit a video and photographs back to Earth.

For now, Cape Canaveral, Florida-based Moon Express is one of five finalists in this contest on the 33 in the running—and the one most tipped to win.

The four others are Japanese team Hakuto, Israel's SpaceIL, Indian Team Indus and Synergy Moon, an international collaboration spanning more than 15 countries.

## **Bold, long-term exploration plan**

"We would love to win the prize, (it would be) the icing on the cake," Richards said.

He said the company was not about the rush, so much as the goal.

"Our company is about building an enterprise, a visionary enterprise to

bridge first to the moon in an economic way that collapses the cost of getting there and develops brand new markets.

And with a long term plan of prospecting and harvesting and ultimately utilizing the resources on the moon... beginning with water," stressed Richards, a Canadian.

Water is the essential main ingredient for man to be able to explore the solar system, he said. Necessary for man—but also to fuel his journey.

"The moon becomes like a gas station in the sky, because the water, the oxygen and the hydrogen can be rocket fuel. So it is a very important consideration."

Lunar soil is also rich in platinum and helium-3, which are rare on Earth. They potentially could be used for nuclear fusion.

Moon Express's relatively small lunar vessel, dubbed MX1-E, measures just three feet (0.91 meters) wide by 4.5 feet high.

## **A can of soda?**

Shaped like a soda can with feet to land, it is made of a single stage, and its engine allows it to fly from the Earth's orbit to the moon.

It will take five to six days between launch and moon landing, according to Richards.

In fact, he said, MX1-E is the first module of an exploration system, much like a "Lego" block that is assembled further to get larger vehicles capable of carrying heavier loads.

The other vessels are MX2, MX5 and MX9, the numbers corresponding

to the number of modules.

In part due to its compact size, MX1-E can be launched by the new Electron rocket manufactured for \$5 million by American startup Rocket Lab. It launches from facilities in New Zealand.

There are still three test flights before the launch of MX1-E, of the four planned.

"They are a little behind but they are doing very well... It is currently scheduled in December," said Richards, who plans three missions to the moon by 2020.

In addition to the first flight with MX1-E, a second is programmed to the lunar south pole, rich in water ice, to establish a robotic research station there.

Then, a third mission aims to bring back samples of [lunar soil](#).

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