

Moon walker Aldrin: Mars mission is 'one-way trip'

By George Leopold

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LE BOURGET, France — Edwin "Buzz" Aldrin, the second man to walk on the moon, says planetary exploration will be a "one-way trip."

In an interview with *EE Times* at the Paris Air Show here on Wednesday (June 20), Aldrin said returning to the moon to establish a base will require the ability to be self-sustaining. Lunar explorers would have to produce their own oxygen and power from hydrogen and other lunar materials to survive.

But getting beyond the moon to explore the planets is in one way a simpler proposition. Planetary exploration will be "a one-way trip to the stars," said Aldrin, 77.



The prospect of sending older scientists or intrepid explorers to Mars to establish a human colony is not new. Theoretical physicist and astrobiologist Paul Davies

advocated one-way trips to Mars in a 2004 article, "Life (and Death) on Mars."

A manned trip to Mars would take about 10 months. Aldrin said current chemical propulsion systems are slow, but adequate to propel humans to the Red Planet. "I'm not so concerned about how fast we get there," said, Aldrin, who has long backed private-sector efforts to again leave Earth orbit. Aldrin and Apollo 11 commander Neil Armstrong landed on the Sea of Tranquility on July 20, 1969.

While Aldrin said "low thrust" technologies that can achieve speeds of about 10,000 miles per hour might be sufficient for a manned Mars mission, emerging propulsion technologies using nuclear fusion may eventually be feasible if it can be made compact and safe, he said. Other proposed propulsion technologies include plasma rocket engines and "variable specific impulse magnetic resonance propulsion systems."

Regardless of what propulsion system is used to get to Mars, Aldrin said the key limiting factors for a manned trip to the planets are power and life support.

Beyond Mars, Aldrin said planetary moons might provide a temporary base of supplies before descending to the surface of the outer planets. But he stressed that planetary exploration will only begin when mankind reconciles itself to the prospect that explorers may not return to Earth.

Aldrin praised the extraordinary longevity of the Mars Rovers that have been exploring the Martian surface for more than three years. But he stressed that the robots can only handle a single task at one time and "they can't lift heavy objects."

A space walker (as Gemini 12 pilot in 1966) as well as a lunar explorer, Aldrin said he is too old to return to space but still wants to plan the next manned mission beyond Earth orbit.