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After 438 days in a 12ft-wide capsule, 'Mars' astronauts break record for longest space mission... and they haven't even left Earth

- **The Mars500 crew will also break the record for the shortest distance travelled on a space mission - not having left the Moscow car park where they are based**

By [Richard Hartley-parkinson](#)

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A group of astronauts have reached a landmark in their space mission by spending the longest amount of time in isolation.

The Mars500 crew, however, is so far from the red planet that it is still in a car park in Moscow.

They have now spent 438 days with limited contact with their friends and family - long enough for them to have made 73 return trips to the moon.

The cosmonauts still have 82 days left of their 520-day mission when they will enter the record books again... for the shortest distance travelled.



The crew has to make the most of the space they have on the 520-day mission



The crew was seen 'landing on Mars' after 257 days in the capsule before their return journey to Earth

They are part of an experiment to see what happens psychologically and physically during long-distance space flight in a simulated mission to Mars.

The experiment is taking place outside the Institute of Biomedical Problems in a 550 cubic metre windowless space.



A final kiss: The crew has had limited contact with family and friends over the last 14 months

Valeri Polyakov, the holder of the real space endurance record of 437 days, told the Daily Telegraph that it would be better for those 'on board' to concentrate on the future.

'Better now not to count how much time has passed, but how much remains,' he said. 'It has a positive effect.'

He spent his time on the Mir space station orbiting Earth in 2005.

Three of the astronauts left the craft around half way through the mission to simulate going onto Mars.

Russian Aleksandr Smoleevskiy, Italian Diego Urbina and Chinese trainee Wang Yue spent two days 'researching the planet' before getting back on board for the return flight.

Like a reality television show, or even the 1978 movie *Capricorn One*, the astronauts are observed by behavioural specialists at all times.

Their mission aims to help real space crews in the future cope with the confinement and stress of interplanetary travel.

The crew members communicate with the outside world via e-mails and video messages - occasionally delayed to give them the feel of being more than a few yards away from mission control.

They eat canned food similar to that eaten on the International Space Station and 'shower' only once a week - in a hot room like a sauna, wiping themselves with tissues.

It contains six tiny sleeping pods with cot-like beds, a living room, a eat-in kitchen, a working zone, a toilet, a laboratory and greenhouse.



The men in the crew have entertained themselves by swapping different cultural festivals such as Halloween



The isolation facility measures about 550 cubic metres and is based in a car park in Moscow

None of the men have considered abandoning the mission, although they are free to walk out at any time, mission

director and former cosmonaut Boris Morukov said at the half-way point.

'They are still motivated, but there is a certain fatigue, which is natural,' he said. 'It will be very tough on the boys because of the monotony.

'The fatigue and the thought that the mission is over can be fraught with negative consequences.'

The Mars500 experiment is being conducted by the Moscow-based Institute for Medical and Biological Problems, the European Space Agency and China's space training centre.

In an effort to reproduce the conditions of space travel, with the exception of weightlessness, the crew has living quarters the size of a bus connected with several other modules for experiments and exercise.

A separate built-in imitator of the Red Planet's surface is attached for the mock landing.

The crew is made up of Frenchman Romain Charles, 31, and Italian-Colombian Diego Urbina, 27, who are engineers by training. China's Wang Yue, 26, is an employee at China's space training centre.

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