520-day flight simulation nears 'landing' on Mars

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Members of the Mars500 crew wave before being locked into the isolation facility in Moscow, 2010. Three men will simulate walking on Mars next month as part of a project that has seen a multinational crew locked up inside a mock Moscow spaceship since June.

After 233 days in a locked steel capsule, six researchers on a 520-day mock flight to Mars are all feeling strong and ready to "land" on the Red Planet, the mission director said Friday.

The all-male crew of three Russians, a Chinese, a Frenchman and an Italian-Colombian has been inside windowless capsules at a Moscow research center since June. Their mission aims to help real space crews in the future cope with the confinement and stress of interplanetary travel.

The researchers communicate with the outside world via e-mails and video messages - occasionally delayed to give them the feel of being farther than a few yards (meters) away from mission control. The crew members eat canned food similar to that eaten on the International Space Station and shower only once a week.

None of the men has considered abandoning the mission, although they are free to walk out at any time, mission director and former cosmonaut Boris Morukov told reporters on Friday.

"They are still motivated, but there is a certain fatigue, which is natural," he said.

The six men are due to "land" on Mars on Feb. 12 and spend two days researching the planet. They then begin the months-long return flight to Earth, expected to be the most challenging part of the mission.

"It will be very tough on the boys because of the monotony," Morukov said. "The fatigue and the thought that the mission is over can be fraught with negative consequences."

The Mars-500 experiment is being conducted by the Moscow-based Institute for Medical and Biological Problems, the European Space Agency and China's space training center.

In an effort to reproduce the conditions of space travel, with 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.

A real mission to Mars is decades away because of its huge costs and major technological challenges, particularly the task of creating a

compact shield that would protect the crew from deadly space radiation.

More information: The Institute for Medical and Biological Problems at http://mars500.imbp.ru/en/index-e.html

The European Space Agency at http://www.esa.int/esaMI/Mars500/index.html

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