

'Mars crew' locked up for 520 days of isolation

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A volunteer moves inside the Mars 500 capsule in the outskirts of Moscow during training in April. Six men from Europe, Russia and China will on Thursday be voluntarily locked away in the module for almost one and a half years to simulate the psychological effects of a mission to Mars.

Six men from Europe, Russia and China were Thursday locked away from the outside world for the next one-and-a-half years, in an unprecedented experiment to simulate the effects of a mission to Mars.

One Chinese man, one Italian, one Frenchman and three Russians will spend the next 520 days in a 550 cubic metre facility at a Moscow research institute to test how their bodies and minds react to prolonged isolation.

Dressed in blue overalls, the six gave the thumbs-up sign and smiled for

the cameras as loved ones and wellwishers gave them an emotional send-off before they entered the facility.

"See you in 520 days," shouted one of the Russian participants, Sukhrob Kamolov, just before a scientist shut the door on the facility and sealed it shut at around 1000 GMT.

Like in a real Mars mission, the crew will have to survive on limited food rations like those used by real astronauts and their only communication with the outside world will be by email, with a delay of up to 40 minutes.

The hatch will only re-open when the experiment is over or if one of the all-male participants is forced to pull out. Controversially, no women have been selected for the experiment, called Mars 500.

"I am already missing him. I am crying right now," said Irene Urbina, sister of Italian participant Diego Urbina.

The volunteers are aged between 27 and 38 and include a member of a real-life space programme and a civil engineer. But scientists bristle at the idea that the experiment is an elaborate version of television's "Big Brother".

"It is not like 'Big Brother'. We do not have surveillance, video cameras everywhere. We hope there will be no fights or scandals," said Jennifer Ngo-Anh, Mars 500 programme manager.

The volunteers will have their days in the module at the Russian Institute for Biomedical Problems (IBMP) divided into eight hours of sleep, eight hours of work and eight hours of leisure.

A team of three will spend one month aboard a special module meant to

represent the Mars landing craft, while two will also spend time exploring a reconstruction of Mars itself.

Chinese member Wang Yue, 27, a candidate astronaut of China's space programme, told reporters before entering the capsule: "It is just a simulation. It is not a matter of life and death."

"But I think it is very much more than that as it aims at the future of humanity."

The idea is to exactly mimic the timescale of a Mars mission -- 250 days for the trip to Mars, 30 days on the surface and 240 days for the return journey, totalling 520 days.

"You cannot simulate everything. That is obvious," said Christer Fuglesang, head of science at the directorate for human spaceflight for the European Space Agency, a co-organiser of the project with the IBMP.

"The scare factor cannot be simulated. It's true we don't have this aspect they may not come back."

The crew also conspicuously lacks women, meaning the experiment will not examine the possible sexual tensions that could arise on a trip to Mars for a mixed-gender crew.

Yury Karash, a Russian space policy expert, said the gender composition of the crew would allow the participants to focus on their professional duties instead of unwittingly competing for attention of female crew members.

"It is better for the crew to be same-sex," he said on Russian television. "No one has abolished the basic instinct yet."

Their diet will be no different to that enjoyed by real-life astronauts on the International Space Station. The crew will be given all the food at the beginning of the experiment, forcing them to ration out their supplies.

The diet will include cereals, bread or pancakes for breakfast and soup, pasta and fish or meat dishes for main meals. Unlike real-life astronauts, the packaging will not have to account for zero gravity.

The ESA and the US space agency NASA have separately sketched dates in around three decades from now for a manned flight to Mars.

The project, the first full-duration simulated mission to Mars, follows a similar experiment in Moscow last year which saw six volunteers shut away for a mere 105 days.

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