

A Marsonaut's year

A simulated journey to Mars and back has completed one year, with participating astronauts reporting boredom from the monotony as the biggest challenge. There are still about 6 months to go before they 'return to Earth'



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Moscow: Six men from four countries are celebrating a bizarre anniversary that could become more normal in the future. These "Marsonauts" have spent one year simulating the journey to the Red Planet and back, mostly sitting inside a mock spaceship.

That still leaves another 165 days before they complete the 520-day Mars-500 isolation experiment, which is being run by the Russian Academy of Science's Institute for Biomedical Problems in Moscow, reports New Scientist. But what have these wannabe interplanetary travellers achieved so far?

For one, a Mars landing. In February, three crew members detached from the mother ship and made a beeline for the surface — in reality a room with a high, domed ceiling and a floor covered in reddish sand and rocks — in their simulated lander.

In pairs, the three took turns exploring the Martian surface: planting Russian, Chinese and European Space Agency flags, taking soil and rock samples using tools developed for the cancelled Soviet lunar programme, and dealing with a simulated "abnormal" situation — what to do when a Marsonaut falls down (someone has to come to his rescue).

They've also managed to trick at least one individual: the landing looked so real when shown on television, says Mark Belakovsky, chief manager of the project, that his 90-year-old father called him, saying: "Listen, did the Americans land on Mars? Or is this you with your experiment?"

At the end of February, the landing party — one Russian, one European and one Chinese — ditched their lander and rejoined the two Russians and one European who stayed behind in the "orbiting modules". Now they're all headed home, scheduled to "land" back on Earth in November.

Just like the real thing, life on a mock spaceship doesn't always run smoothly, however. The crew has successfully dealt with two simulated emergency situations: a day without electricity in December, where they sat in near-darkness and played games like chess and cards by the glow of a few flashlights, and a week of radio silence from the experiment's ground control centre last month.

They've also survived the excruciating monotony of isolation that might drive an ordinary earthling crazy. Indeed, even participants in the 105-day precursor experiment got a bit tired of seeing the same five faces every day.

That crew's commander, cosmonaut Sergei Ryzansky, says: "I found that I really missed being in traffic jams, in Moscow, sitting in my car and looking at other people sitting in other cars." But the most challenging part of the journey for the 520-day crew is still to come, says Aleksandr Suvorov, the project's lead doctor: "We've passed all the stages of the experiment that they waited for and trained for, with the flight, walking on the [Mars] surface, the experiments."



Now, he says, there's nothing new for the crew — no new food, no new procedures, nothing. "Now comes the very hardest psychological period, where they have to be patient, find ways to keep themselves busy," particularly in their free time, Suvorov says. In the meantime, the crew will be greeted with messages congratulating them on the anniversary and, no doubt, nudging them to hang in there.

The mars-500 project

- 520 days inside a mock spaceship
- 6 astronauts
- Simulated emergency situations -- power cut in deep space, playing chess by flashlight and 1 week of radio silence from Earth
- Mock Mars surface landing -- collecting rock, soil samples, rescuing teammate in accident situation

The flip side

- 365 days completed, 160-165 days left to 'return to Earth'
 - Crew members reported "getting tired of seeing the same 5 faces"
 - Nothing new to do now — same food, same procedures
 - Last phase is toughest psychological period -- challenges include being patient, keeping busy, stop missing Earth
- ▶ I found that I really missed being in traffic jams, in Moscow, sitting in my car and looking at other cars

- *Sergei Ryzansky, Crew Commander*