The questions in the interview are from the IJSTMI Editorial Board.

**IJSTMI:** How did the idea for the Mars One way mission arise? Why did you choose a one way Mars mission?

The idea for the Mars One plan came from Bas Lansdorp and Arno Wielders who founded Mars One. Based on an article from two American professors on why a one way mission to Mars would be attractive to implement compared to a full return trip. The reason for the one way trip is twofold: a one-way journey supports the primary intent of going to Mars—to establish a permanent settlement; the complexity and associated cost for the return trip make it cost prohibitive in this current technology landscape.

**IJSTMI:** Can you tell us more about the mission objectives, needed technology and timeline?

2013 will be the year in which our astronaut selection begins.

**IJSTMI:** Who will be the first four humans on Mars and who are to follow every two years after?

Anyone who meets the criteria and feels they are up to the challenge can apply. Mars One will maintain 40 trained astronauts during the full duration of its missions. Mars One will build a replica of the Mars settlement on Earth, likely in a cold, desolate environment, to help the astronauts prepare and train. The astronaut selection and the preparations in the simulated Mars base will be broadcast world-wide for the public to view.

The first supply mission will be launched to Mars in January 2016. It will land on the Red Planet in October 2016 with its cargo of 2500 kilograms of spare parts, solar photovoltaic panels, and general supplies. It will land close
to where the outpost is expected to be. It will also serve as an important test for the Entry, Descent and Landing system.

In 2018 the first Mars One rover will land on Mars. While the general location of the outpost will be known, the rover’s task is to choose the ideal spot within the area. As with the Curiosity Mars Rover, the 6-40 minute round-trip delay in communication (depending upon the respective positions of the Earth and Mars in their orbits) requires that the rover has some autonomy while much of its function will be controlled by instruction from Earth. A video stream will be broadcast on Earth 24/7/365.

In 2021 all the components of the settlement reach their destination in six separate landers. Two living units, two life support units, a second supply unit, and another rover arrive on Mars. The two rovers take all components to the settlement location and prepare for the arrival of Mars Team One, the first humans on Mars. A second video stream will be broadcast to Earth 24/7/365.

All water, oxygen and atmosphere production will be ready by early 2022, which is when the Earth crew is granted the go-for-launch of Mars Team One. Each component of the Mars transit vehicle is launched into a low Earth orbit and linked. In September the first four astronauts are launched on their journey to the Red Planet. Every part of this adventure will be broadcast to Earth 24/7/365.

The Mars Team One astronauts land in 2023 – the first humans to set foot on Mars! Once settled in, their first tasks include installing the connecting tubes between the individual capsules, configuring and activating the food production units, and assembling the remaining solar photovoltaic panels. Their epic exploration of Mars, their new home planet begins, with everyone on Earth engaged in the 24/7/365 broadcast. A few weeks later, five cargo missions arrive, bringing additional living units, life support units, and a third rover.

Just two years later the second team of 4 Mars settlers are launched to Mars to join the already four other humans.

**IJSTMI: What is the range of investment required for the technology development for a future Mars One mission?**

In total an amount of 6 billion is needed to develop the Mars One first mission bringing 4 humans to Mars. This number has been determined as follows: The mission design was split up into a number of very large components. Mars One identified one or more potential suppliers for each component and received rough quotes from each supplier, in the new paradigm of commodity, commercialized space travel. It needs to be stressed that the figure of six billion dollars is an estimate. For some of the components, the cost can be projected quite accurately. The price of a Falcon Heavy launcher for example, which Mars One plans to use, is mentioned on Space Exploration Technologies’ website. For other components, such as the rover, the cost is more difficult to determine.

Mars One has also made estimates of the operational expenditures. The six billion figure is the cost of all the hardware combined, including the operational expenditures with a margin of error for cost-overrun.

**IJSTMI: What type of business model will you be looking at and how will you generate enough royalties to finance the mission? Will you consider only private funding or also public funding? Venture capital, PPP, etc.**

Mars One will achieve its mission through a solid and profitable business case built around a televised/streaming content media campaign which garners world-wide, public interest for this incredible endeavor.

The total business plan includes several, recurring revenue streams: crowd-sourced fund raising, Astronaut Selection sign-up and interactive, global streaming media campaign; the biannual televised Astronaut Selection Program; the on-going, streamed astronaut training program; advertising and product placement in every possible segment; lease of Mars One research facilities and sale of intellectual property
Related Content

FAA Role in Encouraging the Development of the U.S. Commercial Space Transportation Industry: Interview with Ken Davidian
[www.igi-global.com/article/faa-role-encouraging-development-commercial/61164?camid=4v1a](www.igi-global.com/article/faa-role-encouraging-development-commercial/61164?camid=4v1a)

[www.igi-global.com/chapter/modeling-with-colored-petri-nets/223736?camid=4v1a](www.igi-global.com/chapter/modeling-with-colored-petri-nets/223736?camid=4v1a)

Designing for Human Factors in the Technology-Intensive Domain of Fighter Aircraft
The Evaluation of Wireless Communication Devices: To Improve In-Flight Security Onboard Commercial Aircraft


www.igi-global.com/chapter/evaluation-wireless-communication-devices/55976?camid=4v1a