

MIT's
Oldest and Largest
Newspaper



The Weather

Today: Clearing, 61°F (16°C)

Tonight: Mostly clear, 34°F (1°C)

Tomorrow: Cloudy, showers, 48°F (9°C)

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MIT Alums Race to Mars With Start-Up Company

By Hanhan Wang

STAFF REPORTER

Talk about reaching for the stars. Last month, a few MIT alumni turned space entrepreneurs launched 4Frontiers Corporation, a start-up dedicated to building a self-sustaining settlement on Mars by 2025.

Feature

“We’re looking at permanent trips, establishing civilization on the Red Planet,” said Joseph E. Palaia, IV, MIT graduate student and co-founder of 4Frontiers.

The first journey is targeted to launch in 2025 with 12 space pioneers. After a six month one-way journey, Mars pioneers would develop the infrastructure to support the initial habitation space, life support systems, nuclear power generation, and mining. The settlement’s purpose would be mining minerals on Mars and making these materials available and accessible to the Earth.

Right now, 4Frontiers comprises over 30 people, full-time and volunteers. Every week, the company

New Opportunities From NASA Help Private Space Exploration

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holds brainstorming sessions on campus to generate creative inventions and ideas.

4Frontiers has already secured about \$30 million in funding, mostly from private individuals. The company plans to make money over the next five years by patenting spin-off innovations.

Plans also include building a full-scale replica of the 12 person 25,000 square foot Mars Settlement in the middle of a populated city. This center would help the public visualize the Mars settlement as a recognizable reality. The center would also host classes, ad space, and a research area for collaboration between engi-

neers.

Surviving on Mars would require new space technologies. For example, since Mars' low atmospheric pressure could cause objects to explode, inhabitants might live in masonry structures built into the side of a hill with steel beams extending onto the plane. An inhabitable atmosphere could be generated by splitting oxygen atoms in water. Palaia said that new technologies will be built on concepts from already existing ones.

In recent years, NASA has opened up opportunities for private industries to get involved in developing space technologies via the Centennial Challenges.

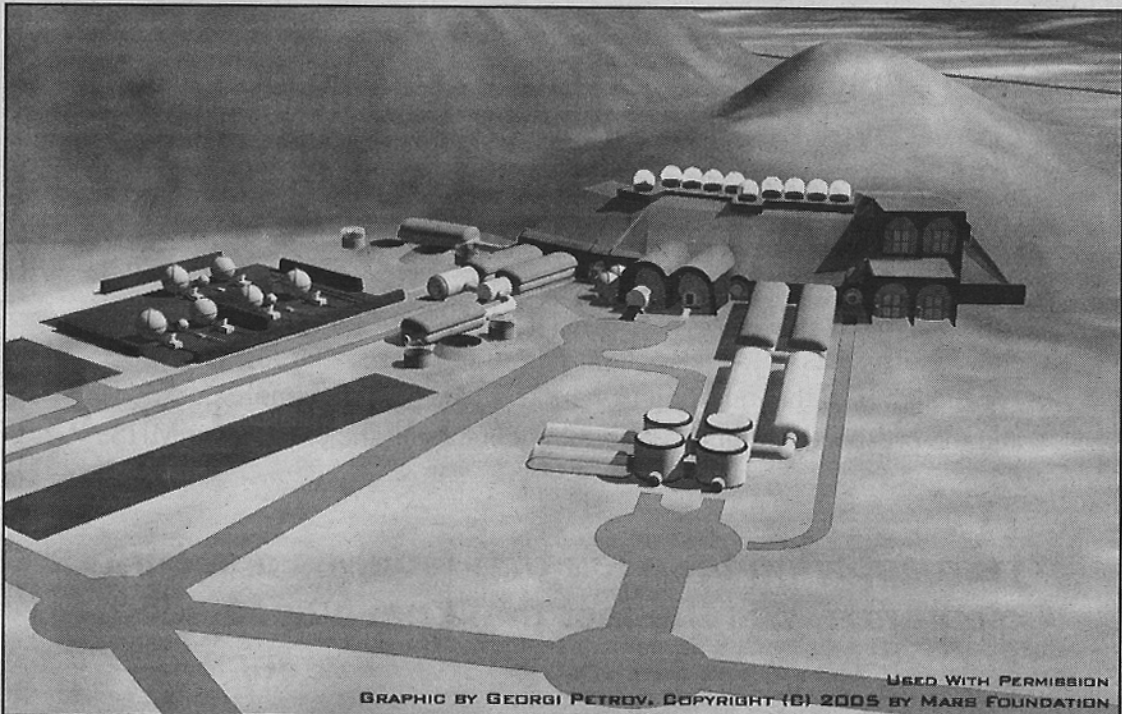
4Frontiers is focused on solving a

few of these challenges, not beating NASA to Mars.

"We don't think we're competing. We have cordial relations with NASA and vice versa," Palaia said.

Opening NASA to the private sector may give the general public access to space exploration goals, which will boost all efforts.

While the idea of establishing a settlement on Mars in the next two decades seems more like science fiction than reality, Palaia said that this dream is what draws people to the project. Palaia said that rich baby-boomers have been investing time, money, and energy to fulfill their dream of making the human race a multi-planet species. "Now is the right time," he said.



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COURTESY OF JOSEPH E. PALAIA IV

An artist's rendering of the Mars Homestead Settlement depicts early colonial life on the Red Planet. The facility will be built using local materials to provide industrial functions and life support.