RUSSIAN BILLIONAIRE YURI MILNER INVESTS $100M TO SEND A FLEET OF SPACECRAFT TO ALPHA CENTAURI

News / Personalities

Yuri Milner is pushing forward with the hunt for intelligent alien life beyond our planet, and is investing another $100 million in a more proactive approach after putting up the original $100m last year.

In July of 2015, Milner and I sat down and discussed the greatest question of all. In the mind of this legendary investor, that question is “are we alone?” To get to the answer, he invested $100 million in a project called Breakthrough Initiatives, with the first phase being dubbed Breakthrough Listen. Breakthrough Listen uses two of the most powerful telescopes on the planet to listen, across multiple frequencies, to the signals within the universe.

No, Milner has not yet found proof of extraterrestrial life via Breakthrough Listen. However, he (in conjunction with Stephen Hawking and Mark Zuckerberg) is ready to announce the second phase of this project, called Breakthrough Starshot.

Advancements in technology have allowed for a very unique form of exploration, and Milner is putting up another $100 million to start research and development.

Breakthrough Starshot is unlike anything ever launched into space.

The project includes a collection of gram-scale nanocraft space ships, equipped with sensors, a laser to transmit information back to Earth, robotics to steer, and a camera. These space ships won't be propelled by a rocket, but light itself.

There are three fundamental pieces of this project, all of which have recently become possible through breakthroughs in technology.

The first is a gram-scale wafer. Moore's law has allowed for powerful computation at a very small scale. Because of that, Milner says scientists and technologists will be able to build a fully functional space probe, complete with lasers, communications systems, and cameras, all smaller than the palm of your hand.

The second part of the mission requires a light sail. Thanks to new discoveries in metamaterials, the team will be able to build a sail that is only a few hundred atoms thick, a few meters wide, and as light as a few grams. These light sails will be attached to the nanocraft and pushed by… (you guessed it!) light!

The final piece of the puzzle is a light beam, or a very powerful laser. This is by far the most expensive and difficult component, but thanks to the ability to sync a number of smaller lasers, it is now possible to build a light beam strong enough to push these nanocraft up into space.

Once in space, and headed the right direction, inertia will do the rest.

Because the nanocraft are so small, and susceptible to interference from interstellar dust, etc., Milner plans to send a few hundred into space to ensure that a few make it to their intended destination of the.

But where are they headed?

Alpha Centauri, the closest star system to our own solar system, where there is a potential to find intelligent life.

Upon launch, which is still years away, it would take the fleet of tiny spacecraft 20 years to reach the star system, and messages from the laser-based on-board communication system would take another four years to receive here on earth. In a best case situation, we'd still be waiting upwards of 25 years to hear back.

However, it would take today's fastest spacecraft 30,000 years to accomplish the same feat.

This will certainly be a difficult and expensive undertaking, yet I'm told that this project will be no more expensive or impossible than any of the most expensive scientific experiments currently underway.

Though this latest investment is just the first phase, and focused on research and development, Breakthrough Starshot is dedicated to transparency and openness throughout the life of the project. That way, we'll have an open conversation about next steps as we inch closer to discovering extraterrestrial life.

The program will be led by Pete Worden, the former director of NASA AMES Research Center, and the board will consist of Hawking, Milner, and Mark Zuckerberg.

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