

Revolutionary rocket to take humans to Mars

British startup Pulsar Fusion is developing a new type of space engine that could revolutionize exploration of the solar system.

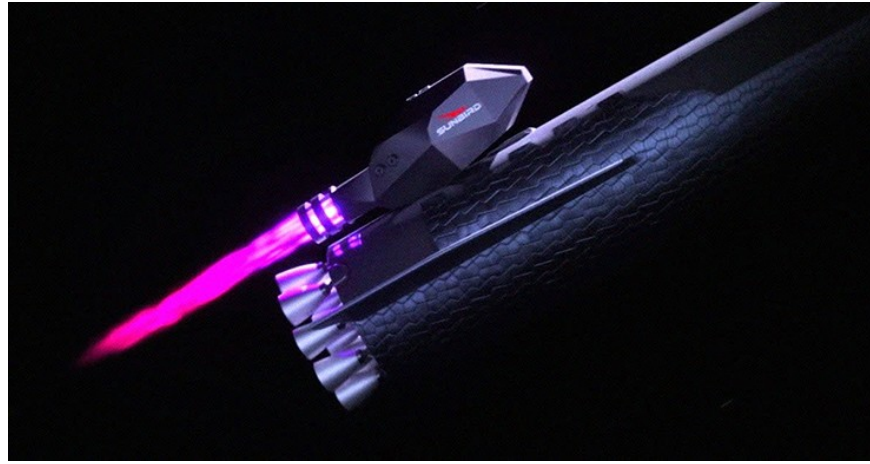
The engine, called Sunbird, uses fusion energy—the same energy that powers the stars—to propel spacecraft at unprecedented speeds. If successful, the technology could exponentially shorten the travel time to Mars.



Sunbird is still in development, but Pulsar Fusion plans to test the technology in orbit in 2027. Their idea is simple: attach a spacecraft to a space tug and use the thrust from a fusion reaction to propel it to its destination.

Fusion differs from nuclear fission in that it combines light atoms like hydrogen into heavier atoms, releasing energy without creating long-lasting radioactive waste. While on Earth, the goal of fusion is to generate electricity, Pulsar Fusion wants to use the reaction directly to generate thrust in space.

The Sunbird engine would use helium-3, a rare form of hydrogen, as fuel for a fusion reaction that would create high-energy protons. These protons would be released from the back of the engine and provide forward thrust. While this system may not be as efficient as other methods, it could still be a big win.



One of the reasons this technology could work is because space is an ideal environment for fusion. On Earth, engineers have to contend with gravity and atmospheric pressure to contain the extremely hot plasma needed for the reaction. In the vacuum of space, these barriers don't exist. As Pulsar CEO Richard Dinan has emphasized, 'space is where fusion wants to happen.'

There are still many challenges to overcome, however, including miniaturizing the fusion hardware, managing heat, and designing a compact power system. If Pulsar Fusion can prove the concept in orbit, the potential for the future is huge. Sunbird could one day be used to put satellites into orbit, deliver cargo to the Moon, or even support a manned mission to Mars in less than six months.

You finished reading the article "**Revolutionary rocket to take humans to Mars**" edited by the [TipsMake](#) team. We hope this article has provided you with many useful tech tips and tricks. You can search for similar articles on tips and guides. Thank you for reading and for following us regularly.