

Former NASA Astronaut, Ron Garan, Author of [Floating in Darkness](#) has traveled more than 71 million miles through space over 178 days aboard the US Space Shuttle and Russian Soyuz Spacecraft and completed four spacewalks. He also led a company that served as a SpaceX subcontractor and says the story is not that the SpaceX Starship (SN10) exploded after a flight test. **The story is that it flew a successful flight test and had a successful landing (that's the hard part). Although SN10 exploded shortly after touchdown due to a suspected methane leak, the flight marked the first time a Starship prototype successfully landed after attempting the belly flop maneuver.**

- The SpaceX Starship system is a proposed fully reusable, two-stage-to-orbit super heavy-lift launch vehicle. The system is composed of a booster stage, named Super Heavy, and a second stage, also referred to as "Starship". The second stage is being designed as a long-duration cargo, and eventually, passenger-carrying spacecraft. Testing of the second stage Starship began in 2019 as part of an extensive development program to prove out launch-and-landing and iterate on a variety of design details
- In April 2020, NASA selected a modified crew-rated Starship system as one of three potential lunar landing system design concepts to receive funding for a 10-month-long initial design phase for the NASA Artemis program. Starship is intended to become the primary SpaceX orbital vehicle. SpaceX intends to eventually replace its existing Falcon 9 and SpaceX Dragon 2 fleet with Starship, which is expected to take cargo to orbit at far lower cost than any other existing launch vehicle.

Intended Uses:

- Earth-orbit satellite delivery (including SpaceX's own Starlink internet satellite constellation).
- Long-duration space flights beyond the earth-moon system.
- Sending crew (and space tourists) to the International Space Station, the Lunar Gateway, and other orbital installations.
- Mars transportation, both as cargo ships as well as passenger-carrying transport.
- Long-duration flights to the outer planets of the Solar System, for cargo and astronauts.
- Reusable lunar lander, for use transporting astronauts and cargo to and from the Moon's surface and Gateway in lunar orbit via Starship Human Landing System (Starship HLS).
- Let me know if you'd like to hear more from Ron. Thanks!

COL. RON GARAN

Former NASA Astronaut, Fmr. Air Force Fighter Pilot
Decorated Desert Storm Veteran
Author, *Floating in Darkness*



Col. Ron Garan is a highly decorated NASA astronaut, fighter pilot, and active social entrepreneur who believes that appropriately designed and targeted social enterprise can solve many of the problems facing our world. Ron spent 178 days in space and traveled more than 71 million miles during 2,842 orbits of our planet. He flew on both the US Space Shuttle and the Russian Soyuz spacecraft, where he

accomplished four spacewalks. Ron also spent eighteen days at the bottom of the ocean during a research mission held in the world's only undersea research lab, Aquarius. Later, Ron was assigned to the US Agency for International Development, leading the Unity Node project. The project's task was to develop a universal, open-source platform, enabling humanitarian organizations to work toward mutual goals. Ron is celebrated not just for his research in space but also for his humanitarian contribution to life on earth. In 2007, Ron co-founded **Manna Energy Limited**. As a leading authority on the trends and technologies that impact business development, society, and economic growth, Ron is sought out for his unique perspective and is regularly featured in major media news outlets. Ron is the author of the critically acclaimed book *The Orbital Perspective* as well as host of the **Orbital Perspective podcast**. He is currently launching two new books *Floating in Darkness* as well as a children's book, *Railroad to the Moon*.

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