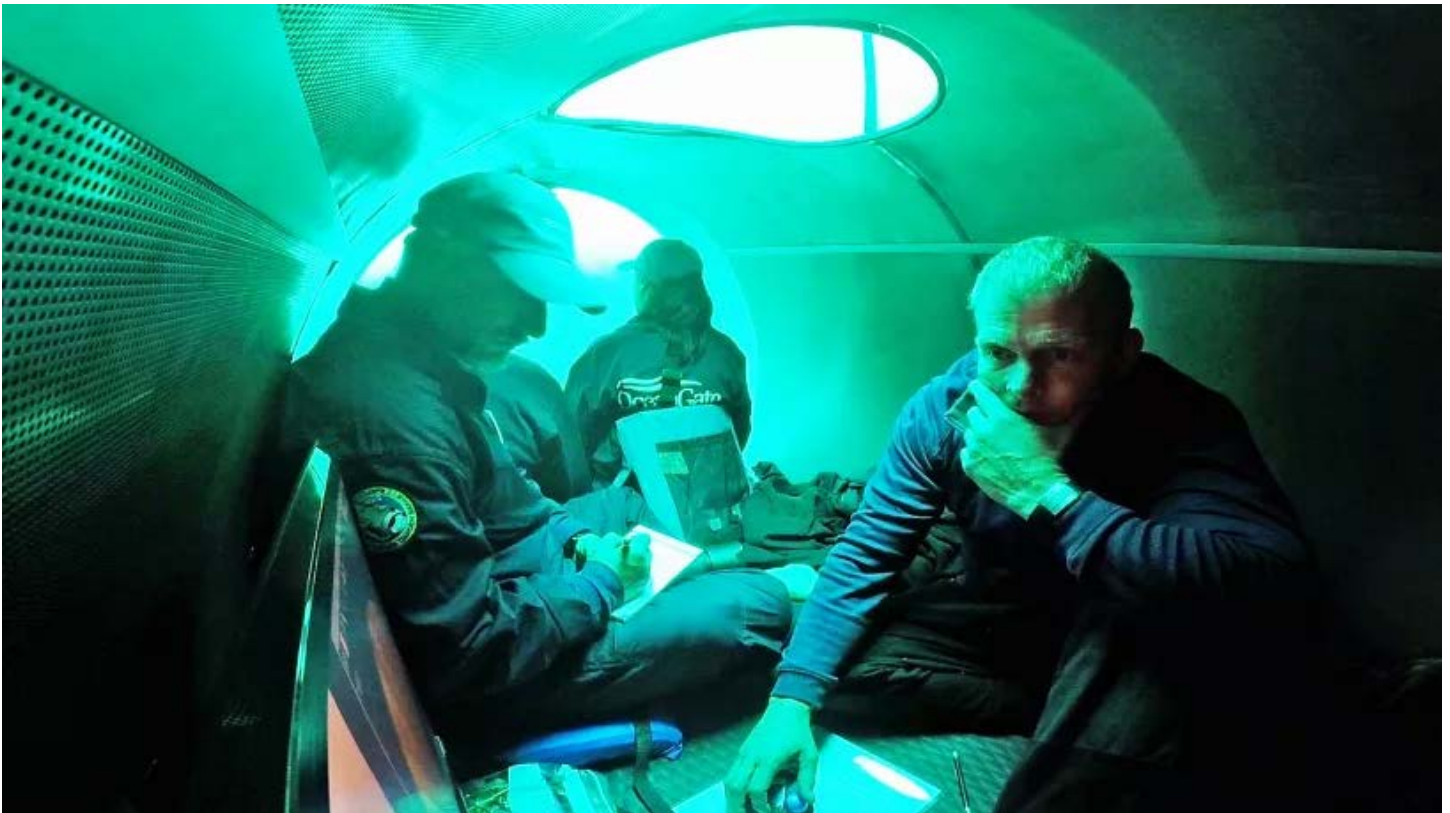


## The Man Who Wants To Send Us To The Bottom Of The Ocean

**Stockton Rush—more Musk than Cousteau—has a grand plan for the deep sea, beginning with trips to the Titanic. Required: curiosity, ample liquid assets.**



[Photo: courtesy of OceanGate]

**BY MELISSA LOCKER 04.14.17 | 12:00 PM**

Stockton Rush is one of the few humans who owns a submarine, but initially what he really wanted was a spaceship. “I wanted to be the first person on Mars,” says Rush, and while that’s a common flight of fancy, Rush was serious. At 19, he became the youngest jet transport-rated pilot in the world and then went on to earn a degree in aerospace engineering from Princeton. He worked on F-15s and anti-satellite missile programs, with the aim of eventually taking part in the space program. It wasn’t until 10 years ago, at the

age of 44, that he realized his dream of being an astronaut on a trip to Mars was just not going to happen, because as he sees it, there's no economic reason to venture to the Red Planet. "If someone would tell me what the commercial or military reason to go to Mars is, I would believe it's going to happen," says Rush. "It's just a dream."

Rush wasn't crushed or embittered by the realization that he wouldn't go to Mars, though. Instead, he shifted focus from the stars to the seas. "I realized that what I really wanted to do was explore. I wanted to be Captain Kirk and in our lifetime, the final frontier is the ocean," he says.

Rush likes to dig in deep to his passions. He built a Glasair III experimental aircraft, which he still owns and flies today, and casually mentioned in conversation that he built his own sub, too. As he started to explore the idea of launching his own submarine company, he tried to buy daredevil businessman Steve Fossett's submersible, after the adventurer died in a 2007 plane crash. When that didn't work out, he struck out on his own. Starting a submarine company sounds a lot like falling in love—it happens slowly and then all at once. "As I started building the sub bit by bit, I kept waiting for someone to tell me to stop, but no one did and then I was neck deep in it," says Rush.

Since 2010, his Everett, Washington-based company, OceanGate, has been ushering marine researchers, nautical archaeologists, and well-financed adventure travelers to the ocean depths. The privately funded company is currently targeted at the adventure travel market, which Rush estimates is \$275 billion a year. "There's a huge demand for unique travel experiences," he says. Undersea tourism—deep undersea tourism—may be one of the most adventurous travel experiences there is, and he's betting that some tourists are willing to shell out for it.

With a new vessel—designed to go deeper than any private submarine on Earth—Rush wants to push the limits even further, to a place few living civilians have ever been. His plan is to bring bold adventurers (Rush doesn't like the word "tourists") to explore the wreck of the Titanic, 12,500 feet—nearly 2.5 miles—below the surface of the Atlantic.

If testing goes as planned, the first eight-day mission to the Titanic will head out from St. John's, Newfoundland in May 2018 with a crew of about 20 affable scientists ("they have to have the right demeanor," says Rush), submarine pilots, operations crew, a student or two, and qualified mission specialists (that would be the tourists). In the past, mission specialists have ranged from 12 to 92, says Rush, although now he prefers explorers to be at least 18 years old.

What qualifies a person to join the crew? Their willingness to pay the hefty \$105,129 price tag (the inflation-adjusted cost of first-class passage on the Titanic in 1912, \$4,350), their physical ability to get in and out of the sub, sit inside an enclosed space and not panic, and their promise to avoid perfumes and certain foods during the journey. "Smells can be significant," says Rush, discreetly.

OceanGate is still sorting the logistics of getting the adventurers to and from the boat, which will be anchored near the wreck site. Currently the plan is to put travelers on helicopters in Newfoundland and fly them to a landing deck aboard the dive support ship. Once on board, they will live and work with the crew, taking dives to the legendary shipwreck. As the weather allows during their eight-day stay, five at a time will make several 90-minute descents into the briny deep to attempt to make a 3D model of the Titanic, with help from the nonprofit Advanced Imaging and Visualization Laboratory (AIVL) at [Woods Hole Oceanographic Institution](#).

[Photo: courtesy of OceanGate]When they arrive at the watery grave, they'll have joined a very select group of explorers. "Fewer than 200 people have ever visited the wreck," says Rush. The crews will each spend a total of three hours exploring the rusting wreck, but will not touch it, out of respect for the dead (and international law).

The people who sign up to explore the underwater world are certainly in for an adventure, but for Rush, the high-end tours are a gateway to a more profitable business. "The long-term value is in the commercial side," says Rush. "Adventure tourism is a way to monetize the process of proving the technology." He compares this to how Virgin Galactic earned credibility with its tourism push and has now added satellite launches to their business.

Rush, it turns out, has a lot more in common with Richard Branson than Steve Zissou. While he certainly loves the mystery and allure of the sea, he is also a businessman—he earned a business degree from Berkeley and helmed a few IP ventures—who can't help but see the ocean as a vast mass of resources filled with oil and gas reserves, diamond mining, and rare earth minerals to be harvested and profited from.

While owning a submarine sounds like a childhood fantasy come to life, for Rush it's definitely a business venture, and he has a clear-eyed vision for how to turn a profit. Just as the hunt for gold helped colonize the West and the hunt for precious metals on asteroids is fueling an interest in space, those deep-sea resources could contain the long-term future of deep-sea exploration.

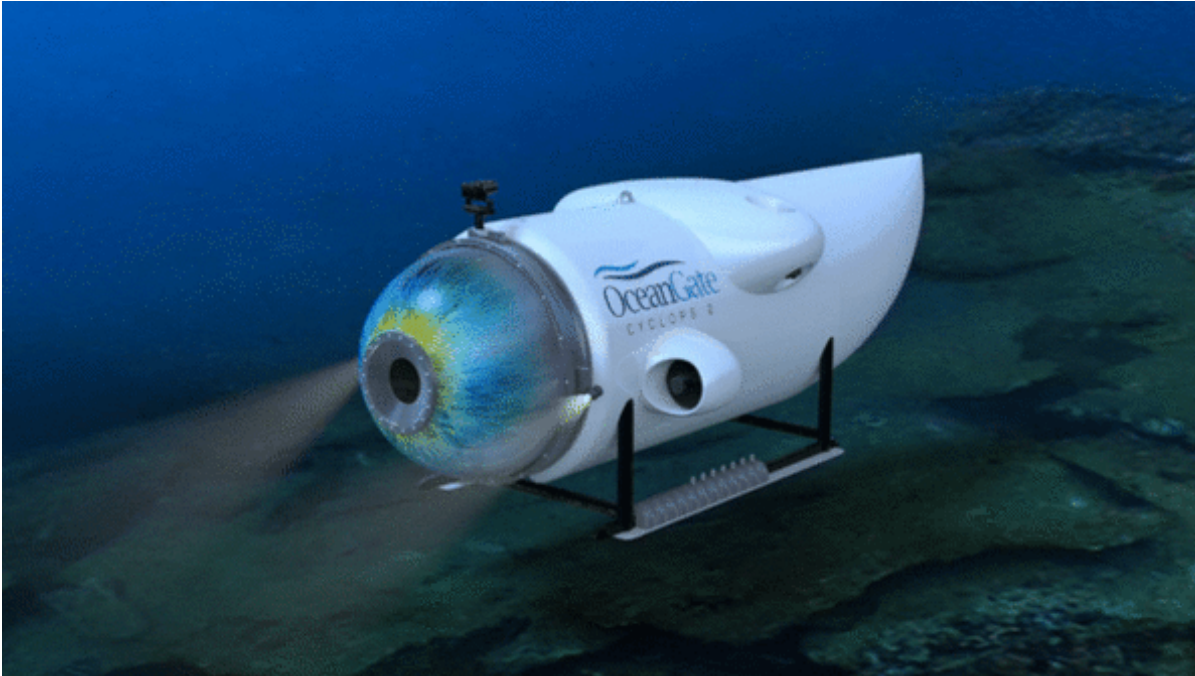
"There's all these resources to be explored and I couldn't understand why there weren't any manned subs," he says. "Turns out one of the reasons was that people had not looked at the business aspect of operating a manned sub, because operations were funded by governments through universities for research. Nobody thought about cost, nobody thought about revenue."

Rush is definitely thinking about revenue, and he has a plan mapped out in charts and graphs to prove its viability. It all begins with OceanGate's elite crews of "citizen scientists," or what most people might call well-to-do tourists.

OceanGate's current submarines can dive 1,500 feet below the water, which is enough to take intrepid travelers to the wreck of the Andrea Doria, off the coast of Nantucket. They're leading seven "missions" to that wreck in August of this year, at \$25,000 apiece. They also

have trips planned with the Bahamas' Cape Eleuthera Institute. "That will be more modest, only 10 to 15," says Rush. (The zeroes on the end are implied.)

As the summer season keeps their shallow-diving sub busy, the company is putting the finishing touches on its new deep-diving submarine, reinforcing the hull with carbon fiber and making other tweaks to make sure the sub can withstand the greater pressure of around 6,000 psi. When the sub hits the water for testing in November 2017, it will be one of a few on Earth. "There are only four subs on the entire planet that can go to half the ocean depth," says Rush and, yes, that includes naval submarines. "More people have been to space than to half the ocean depth."



While Rush is all business, a bit of childish glee bubbles up as he explains the new machine, called the Cyclops 2. "It's extremely rare," he explains. In fact, it's the only manned sub in the world capable of reaching depths of 4,000 meters that is not owned by a government (or, perhaps, a Dr. Evil-style villain). It's that rarity that makes the trip to the Titanic such a hot commodity—it's already sold out for all seven of the trips it's slated to make in its first year.

These bold adventurers are willing to pay a premium to be some of the earliest paying deep sea tourists—which is exactly what Rush is banking on. "The most expensive Virgin Galactic flight is the first one with Richard Branson," he explains, and while OceanGate doesn't have Branson, they are working on having some cast members of *Titanic* on their first mission to the wreck site.

Aside from cash flow and an attention to the rigors of the journey, it also takes a certain nexus of personality traits to be willing to climb aboard a submarine and head to the ocean floor. Perhaps these are the same traits that make someone jump at the chance to be a civilian in space. "The first nine clients for the Titanic are all Virgin Galactic clients," Rush says.



As more and more people earn their submarining merit badge so to speak, the less value there is for the next round of record-seeking elite adventure travelers. After the Titanic trips lose some of their luster, Rush hopes to continue to lure travelers with future excursions to hydrothermal vents or deep-sea canyons for what he dubs “extremophiles”—tourists who thrive on adrenaline—or, for history buffs, to the Battle of the Coral Sea in the South Pacific.

Eventually, as the pool of wealthy adventure-minded travelers willing to take a dive in a sub dwindles, Rush hopes that his submarine technology will be well proven, and he can start to contract with the biggest of the high rollers: oil and gas companies. “The biggest resource is oil and gas, and they spend about \$16 billion a year on robots to service oil and gas platforms,” he explains. “But oil and gas [companies] don’t take new technology. They want it proven, they want it out there.”

The Titanic trips help make the case, showing those oil and gas companies that his technology works, while making a profit—something the company hasn’t quite done yet. “We’ll be profitable with the Titanic trips,” says Rush. “The Titanic is where we go from startup to ongoing business.”



[Photo: courtesy of OceanGate]

Rush is not exactly an eco-warrior. In fact, when questioned about using ocean exploration and scientific research to hook tourists, while planning to mine it for minerals and work on oil platforms, he offers up an interesting analogy. “I view it like needle

exchange,” he says. “These things are going to happen one way or the other. We’re not going to be involved in oil production, we’re just going to be involved in inspection, repair, and maintenance, and the cheaper you can make that, the more you’ll do it.”

That’s the future, though. For now, the company is fully focused on its journeys to the bottom of the sea, while keeping an eye on the bottom line, buoyed by those with the ability to pay for the once-in-a-lifetime adventure aboard a submarine. There’s no doubt that the price tag to join a mission is hefty, but Rush makes a compelling pitch.

“It really is a life-changing experience and there aren’t a lot of things like that,” he says. “Rather than spend \$65,000 to climb Mt. Everest, maybe die, and spend a month living in a miserable base camp, you can change your life in a week.”