



NATION

Launch of a new era or flights of fancy? Branson, Bezos ventures may open space travel to all

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The space travel pursuits by British entrepreneur Richard Branson last week and Amazon founder Jeff Bezos on Tuesday are evoking awe and wonder among enthusiasts and even casual observers, conjuring visions of a day when such flights may become fairly ordinary.

Proponents say these efforts will whet the public's appetite, help expedite technological advancements and pave the way for economies of scale that will make such journeys relatively affordable.

"I truly think we're at the verge of the dawn of a new era where hopefully airline space travel becomes as commonplace as airline travel," said Ron Garan, a former NASA astronaut and the author of the new book "Floating in Darkness." "It's not going to happen tomorrow, but these are the baby steps that will lead to that."

But the ventures to space also have their share of critics eager to bring them down to Earth, seeing them as the vanity projects of billionaires.

After reaching the edge of space with a five-person crew aboard a spacecraft from his company Virgin Galactic on July 11, Branson said he wanted to “make space more accessible to all.”

The expected price of \$250,000 a seat when the firm begins commercial spaceflights as early as next year strains the definition of “accessible.”

You could be a winner: Win a trip on the same Virgin Galactic space plane that flew Richard Branson to space

The cost of a suborbital trip on a rocket ship from Bezos’ Blue Origin enterprise has yet to be announced, but the four-person, 15-minute journey beyond the Earth’s atmosphere Tuesday was supposed to include someone who paid \$28 million for the privilege before postponing because of a scheduling conflict.

The Seattle Times reports that tickets for the first commercial Blue Origin flights will probably cost more than \$300,000.

No wonder some prominent figures are voicing their disapproval, noting there are plenty of problems on this very planet – world hunger, the coronavirus pandemic and climate change among the most pressing ones – that could use the resources and attention of wealthy businessmen such as Branson, Bezos and fellow space travel investor Elon Musk.

The same day Branson fulfilled his longtime space quest on a 90-minute journey, Vermont Sen. Bernie Sanders tweeted, “Here on Earth, in the richest country on the planet, half our people live paycheck to paycheck, people are struggling to feed themselves, struggling to see a doctor – but hey, the richest guys in the world are off in outer space! Yes. It's time to tax the billionaires.”

Four days later, former Labor Secretary Robert Reich tweeted: “Billionaires rocketing off to space isn’t a sign of progress. It’s a sign of grotesque inequality that allows a select few to leave earth behind while the rest of humanity suffers.”

Fellow Democrat Bill Nelson, named NASA administrator in May, understands their point of view but doesn’t share it. As a U.S. representative for Florida in 1986, Nelson orbited Earth on the space shuttle Columbia, becoming the second active member of Congress to fly into space.

Nelson chaired the Space Subcommittee in the House before serving three terms in the U.S. Senate, where he was Sanders’ colleague.

“He passionately believes the little guy has often been left behind, and I certainly understand that,” Nelson said. “But when it comes to the American system of being able to use money that you have been blessed to have, and to do it for something that’s pushing the limits of research and development, then I think it’s great that these billionaires are doing that.”

Nelson believes the competition – some would say rivalry – between Branson and Bezos benefits the space travel cause, which has drawn extra attention because of their involvement. Like many advocates, Nelson sees a parallel between that pursuit and other modes of transportation – trains, cars, airplanes – that initially were affordable only to the wealthy but eventually became accessible to the masses.

Lucky teenager: Jeff Bezos flying to space: 18-year-old passenger joins crew after winning bidder for seat bows out

Garan, who flew on the space shuttle and spent more than 170 days in space during his NASA career, says seeing the curvature of the Earth in person often transforms those who experience it and motivates them to take better care of the planet and its inhabitants.

He also cites a number of other advantages from the Branson, Bezos and Musk endeavors, including the possibility they could spur new developments that may enhance airline travel and considerably shorten flight times.

“And it’s starting an industry that doesn’t exist right now, so there are economic benefits, jobs, technological advancements, motivation for kids to study and being a part of it,” Garan said. “It’s inspirational. There’s going to be research conducted and scientific discoveries. So those folks who say this is just a vanity project between billionaires who have too much money and don’t know what to do with it are not seeing the whole picture.”

That picture would become clearer with a shorter time frame for commercial space tourism, which experts believe Branson and Bezos are providing with their exploits. Musk’s SpaceX has transported astronauts and cargo to the International Space Station and plans to send civilians into orbit in upcoming flights, a longer, more complex endeavor than accomplished by his fellow billionaires.

How soon will these rides become affordable? That’s where things get murky, given the difficulty of forecasting the future of a nascent industry that is dependent on technological innovation, subject to market forces and vulnerable to a high-profile catastrophe that could stunt its progress.

Jon Cowart, a longtime chief engineer and mission manager with NASA who's now a systems director for the Aerospace Corporation, a nonprofit research and development center that's federally funded, says the price per pound of getting to orbit has decreased tenfold in the past 50 years.

Ready to launch: Richard Branson's Virgin Galactic will take tourists to space. Now it's set to go public

Projecting that pace to pick up considerably, Cowart envisions trips to space becoming affordable for the general population by 2060.

"Spaceflight, both tourist and industrial, is eventually going to become a huge market sector," Cowart said. "For this to really take off, they're going to have to be very reliable and predictable, and they've got to be extremely safe. I see advances being needed in all three of those categories."

Mory Gharib, director of the aerospace program at the California Institute of Technology, has a more immediate time frame in mind, though one based on a different level of affordability.

Gharib said competition from commercial entities seeking to cash in on the new market, technologies of scale and enhanced computational power will drive prices down.

"Within five years, I would say the people who can afford to fly first class around the world would be able to afford a (space) flight," said Gharib, estimating the cost at \$20,000 to \$50,000. "We should not underestimate the commercial force behind it. That's what's going to change it."

The Swiss investment banking firm UBS projects space tourism to generate almost \$4 billion in yearly revenue by 2030.

As he watched the livestream of Branson's flight with an eye on the technical aspects, Cowart was impressed by the engineering and professionalism of the operation. He expects the same from Bezos' group.

Cowart pointed out that, regardless of who's funding the space trips and what their profit motive might be, each flight provides valuable experience and knowledge to the industry.

"We're taking some of the data we learn from things like this and we can see other applications for it," Cowart said. "Any time you expand the sphere of knowledge, it helps everybody, and these guys are doing that."