

Orbital Hotel

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1. Introduction

I'm sure most readers will find the title-phrase curious. Although you may guess what this is, per my (current definition), there may not be any currently, or there may be as many as three of these. If there are three of these, you probably don't want to go there. First of all, none of these are as accommodating as the most austere hotel on Terra Ferma. They are all more like prisons. Better in some ways (like if you want to do scientific research) and much worse in others (like if you want to eat real food, sleep in a normal bed or use a normal toilet). However, a number of firms and other organizations are developing commercial space, so if you are really, really wealthy, this may be a future option for you.

When astronauts first step onboard commercial space stations, the experience will be unlike anything they've encountered before. They could find wood paneling and warm interiors, next-generation sleeping pods, large windows for a stunning view of Earth, and an ambience akin to that of a high-end hotel on the ground. This vision is the promise of multiple private efforts to launch orbital habitats in the coming years that could welcome space tourists and government astronauts alike.¹

But the idea of luxury living in space – something commercial space station operators are so far being careful not to promise – this can seem like an oxymoron. For instance, the International Space Station (ISS) is cramped, smelly and filled with crumbs and dead skin cells. Maintaining a comfortable, clean atmosphere, much less a five-star experience, on a functioning spaceship will present all kinds of hurdles. "I'm skeptical," says Jeff Nosanov, an industry expert based in Atlanta and a former NASA proposal manager. "The challenges of keeping a space station functional are very under-appreciated."

2. How Much Does It Cost?

If the question is how much does it cost to go into "space," we need to qualify this more. First of all, a "suborbital flight" is not in space, it's in the upper atmosphere. However, I believe there is a clear demarcation line. If a craft goes high enough for several earth-orbits without using the rocket's thrust to maintain those orbits, I would call that "in space" (albeit probably not in "outer-space").

Then we get into questions of volume (as do all things in a capitalistic economy). Consider the following:

- *Orbital flights to the International Space Station (ISS) have a massive cost: SpaceX's Crew Dragon missions for NASA are about \$58 million per seat.²*

¹ Jonathon O'Callaghan, "How to Vacation in Space," Scientific American, May 2026 Issue, <https://www.scientificamerican.com/article/how-to-build-a-space-hotel/> Note that original source was the print version of this article, and the above link is from the on-line version of this article. To order a copy of this issue of the magazine, or this article, call (800) 333-1199.

² <https://www.nasa.gov/humans-in-space/commercial-space/commercial-crew-program/>

- *Boeing's Starliner capsule offers similar orbital trips.*
- *Space Adventures³ still arranges flights on Russian Soyuz spacecraft, with seats previously costing \$75-\$82 million.*

Since 2001, Space Adventures has launched seven clients on eight successful missions to the ISS. In April 2001, the company sent American businessman Dennis Tito for a reported US\$20 million payment, making him the first space tourist. South African businessman Mark Shuttleworth did the same in April 2002, becoming the first African in space. Gregory Olsen became the third private citizen to travel to the ISS in October 2005, followed by the first female space tourist, Anousheh Ansari, who completed her 10-day orbital mission in September 2006. Charles Simonyi, an ex-executive at Microsoft, became the fifth space tourist who visited the ISS in April 2007, then again in March 2009. He is the world's first private space explorer who launched to space twice. In 2008, game developer Richard Garriott, the first second-generation U.S. astronaut, became the sixth client to travel to the ISS. In October 2009, Cirque du Soleil founder Guy Laliberté became the first Canadian space tourist to have launched into space.⁴

Due to the retirement of the Space Shuttle, from 2011 to 2020, NASA contracted with the Russian space agency Roscosmos to purchase a large number of seats on the Soyuz. Space tourism transport to the ISS became possible once again after NASA signed contracts with two commercial carriers in 2020, and by mid-2020, Space Adventures had contracted for two of the available Soyuz seats in 2021.⁵

3. How Long will It Take

How many years before the average-joe, or perhaps the moderately affluent Joseph, can plan a trip to orbit? This will not be any time in my life nor probably yours.

With ticket prices for a stay currently nearing \$100 million, the potential customer base is unlikely to be huge. "There are maybe 1,000 people in the world who can afford that."

In other words, unless you are very, very affluent, don't start planning an orbital vacation. However, the two curves (decreasing prices of a round-trip ticket to orbit, and the increasing disposable income of a "moderately affluent" traveler) are likely to cross at some point in the future.

3.1. How Prices Have Changed Over Time

3.1.1. Historical Baseline

Back in the early 2000s, space tourists paid \$20-\$35 million for trips to the International Space Station. Dennis Tito, the first private astronaut in 2001, reportedly spent \$20 million for his eight-day adventure.⁶

Russian Soyuz seat prices climbed steadily, hitting \$82 million by 2015. NASA's reliance on Russian spacecraft after the Space Shuttle retired definitely pushed prices up.

³ Space Adventures, <https://spaceadventures.com/experiences/space-station/>

⁴ Wikipedia Article on Space Adventures, https://en.wikipedia.org/wiki/Space_Adventures

⁵ Two space tourists to blast off to ISS in late 2021 - Roscosmos TASS, 1 August 2020.

<https://tass.com/science/1184869>

⁶ Space Travel Cost: What You'll Pay and Why Prices Vary, <https://spacevoyageventures.com/space-travel-cost/>

3.1.2. Modern Reductions

SpaceX's arrival has put real pressure on launch costs across the board. NASA now pays about \$58 million per astronaut seat on Crew Dragon, down from the \$82 million mentioned above for Soyuz flights.

3.1.3. Future Projections

Competition between Virgin Galactic, Blue Origin, and new players will probably keep pushing suborbital prices down. Orbital space tourism still costs a fortune because of all the technical hurdles and safety requirements.

Space hotels and lunar tourism are on the horizon. These trips will stay pricey until more people start launching into orbit and costs come down.

4. Another Opinion

First of all, there are few “facts” about the future, so such projections in this paper are just opinions, including the text below. However, it is good to have reasonable opinions.

You can pay to go to space. Space tourism costs vary. A flight with Virgin Galactic starts at \$50,000. Trips to the ISS can range from \$20 million to \$50 million. Blue Origin also offers space experiences. Prices depend on demand and destination. Many companies require deposits to book your flight.⁷

Options for space tourism include orbital flights, suborbital experiences, and potential future lunar trips. Each option presents different experiences and price points. Suborbital flights are designed for brief excursions and last roughly 11 minutes, while orbital flights offer longer stays in space.

Space tourism raises questions about accessibility. As prices decrease and technology advances, more people may have the opportunity to explore space. This trend could spark increased interest in space science and exploration.

To delve deeper, it's essential to explore safety measures in space travel. Understanding risks and innovations will guide prospective space tourists in making informed decisions.

Space tourism has gained traction as several private companies have developed spacecraft designed for suborbital and orbital travel. These companies aim to make space more accessible to civilians. The costs vary significantly, with suborbital flights starting around \$250,000 and orbital journeys reaching tens of millions of dollars. The experiences include brief periods of weightlessness and stunning views of Earth, appealing to adventurous individuals seeking unique experiences.

4.1. Orbital Flights

Orbital flights involve traveling to low Earth orbit where passengers can spend several days onboard a spacecraft or space station. SpaceX and Axiom Space are notable players in this market, offering trips to the International Space Station (ISS) and private orbital missions. SpaceX's Crew Dragon spacecraft can accommodate up to seven passengers. In 2021, SpaceX's Inspiration4 mission, the first all-civilian mission to orbit, successfully demonstrated this capability. Ticket costs for orbital flights are significantly higher, often exceeding \$50 million per seat.

⁷ Travel Pander, “Can You Pay to Go to Space? A Guide to Costs and Options for Space Tourism,” <https://travelpander.com/can-you-pay-to-go-to-space/>