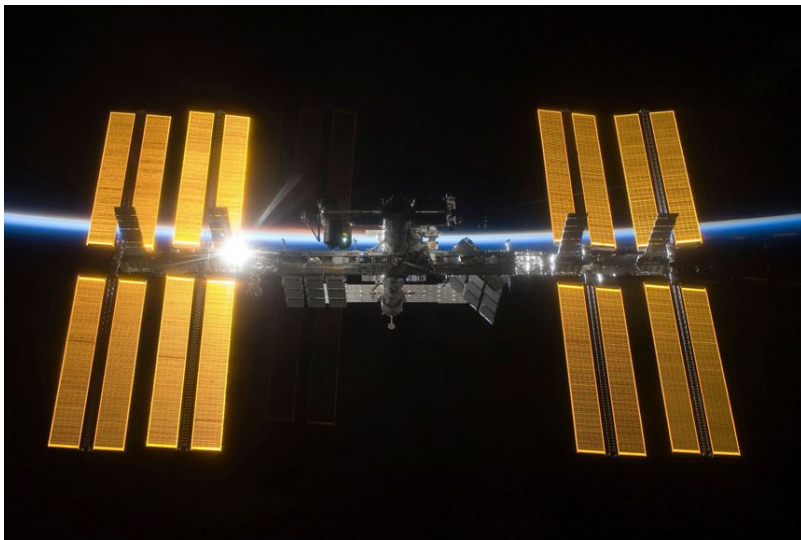


BUSINESS

NASA Opens Space Station to Tourists and Businesses to Promote Commercial Activities

Private trips come as part of a broader effort to jump-start commercial initiatives on the international space station



This March 25, 2009, photo provided by NASA shows the International Space Station seen from the Space Shuttle Discovery during separation. NASA announced it will open the International Space Station to private astronauts, with the first visit as early as next year. **PHOTO: /ASSOCIATED PRESS**

By Andy Pasztor

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The U.S. government has formally laid out the welcome mat for space tourists, as part of a broader effort to jump-start commercial initiatives on the international space station.

In an announcement Friday, The National Aeronautics and Space Administration set out rules for a few affluent adventurers—and potentially even marketers, camera crews and people engaged in various moneymaking activities—to spend up to a month living on board the orbiting laboratory.

So far, only a handful of private visitors have made their way to the space station, all using Russian spacecraft.

The concept of offering more such trips has been discussed for years, with various companies laying out potential arrangements, safety issues and other logistics with NASA officials and representatives of some of the other countries that are partners on the space station.

The trips, to be arranged by private companies, will require reimbursing NASA about \$35,000 a day for each visitor, covering life support, food, medical supplies and other items. But getting there and back will take many millions of additional dollars.

Both Boeing Co. and Elon Musk's Space Exploration Technologies Corp., or SpaceX, designed the seating capacity of their commercial capsules—primarily intended to transport astronauts—with the idea of potentially taking a limited number of private travelers on selected trips. Those U.S. spacecraft, though, are still undergoing testing and aren't expected to be ready for routine transportation until next year at the earliest.

The overall cost of the anticipated tourists flights isn't clear, since it currently costs NASA more than \$40 million per astronaut to blast crews to the station using Russian hardware. In previous years, a tiny group of well-heeled adventurers have paid for Russian rockets and capsules to carry them to the space station. But Moscow hasn't offered such rides to nonastronauts recently.

The eventual price of a space station visit, even for only a few days, is bound to be significantly more than the roughly \$250,000 that companies such as Blue Origin LLC and Virgin Galactic LLC plan to charge for brief, suborbital rides to experience a few minutes of weightlessness.

As part of an overall plan to phase out government support for the space station sometime during the next decade, NASA and aerospace industry leaders are exploring a wide range of options to promote business in space. The possibilities include producing drugs and manufacturing electronic components.

With Friday's announcement, however, NASA trained a spotlight on an element of that plan bound to resonate with many space fans and average citizens who have dreamed of looking at earth from beyond the atmosphere.

Mr. Musk has prompted headlines over the years with proposals to fly private passengers around the moon, without offering many specifics.

Traditional and startup U.S. space companies are maneuvering to take advantage of the principle of public-private partnerships, a main building block the White House hopes to use to accelerate manned exploration and establish long-term bases on the lunar surface.

The challenges of ramping up private investment in research projects utilizing the space station are formidable. Since 2012, such investment totals about \$200 million, a small fraction of the roughly \$3 billion annual cost for NASA to operate, maintain and supply the orbiting laboratory.

As a result, there are various government and industry proposals to decommission large parts of the space station in the mid-2020s, or assemble a smaller replacement that would be less expensive to operate.

Space Adventures Inc., the U.S. company that acted as a middleman for the first tourist trips, responded to NASA's move by announcing it now can arrange visits to the space station using either Russian or Boeing-built spacecraft.

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