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# The spaceport industry is booming in every corner of the US, from Alaska to Virginia



- 10 spaceports are quietly driving the commercial space industry, and the FAA says "another half-dozen locations are knocking on the door."
- The FAA is working to resolve the enduring conflict between aircraft and spacecraft, as the number of rocket launches increases exponentially.
- Spaceports are economic drivers. One CEO says "the money really is in the vehicle operators."

Michael Sheetz | @thesheetztweetz  
Published 7 Hours Ago | Updated 3 Hours Ago

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# The spaceport industry is booming in every corner of the US, from Alaska to Virginia

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Records are being set monthly in the space industry, and private companies are the ones leading the surge.

While companies like United Launch Alliance and SpaceX may get the glory, thanks to the enduring sex appeal of thundering rocket launches, spaceports are quietly driving the industry forward, acting as its critical backbone.

"The standard that the industry is looking for is different than ever before," Craig Campbell, CEO of Alaska Aerospace, told CNBC. "The commercial industry is nothing like the government industry when it comes to money."

Ten spaceports are licensed by the Federal Aviation Administration. George Nield, leader of the FAA's Commercial Space Transportation, said "another half-dozen locations are knocking on the door."

Nield noted there is no generally accepted definition of what a spaceport is, saying "they're not all the same and are often very different kinds of operations."

For Campbell's Pacific Spaceport Complex on Kodiak Island, Alaska, the focus is on small, vertical launches, such as with Rocket Lab's Electron vehicle. Rocket Lab has contracted to soon launch the Electron vehicle to orbit from Campbell's facility.

"We are ideally located to launch into polar orbit and have an unobstructed



range for launching," Campbell said.

Vehicle operators want three things, said Campbell: "Low cost, launch on time, and with no interference with other customers."



### BRPH | Alaska Aerospace

The integration and processing facility at the Pacific Spaceport Complex in Kodiak Island, Alaska.

Dale Nash, CEO and executive director of Virginia Space, said he hopes his facility becomes "as busy as Cape Canaveral in Florida."

"Right now my capacity is not limited by me. It's limited by the launch vehicle providers," Nash said.

The state invested more than \$100 million to help build one of the two launchpads at Virginia Space, and there's a third flat pad for smaller launches, as well as a runway for unmanned aerial vehicles.

The Alaska and Virginia facilities rely on FAA-regulated airspace. Nash noted



that competing air traffic requires the FAA clear a window. The enduring conflict between aircraft and spacecraft is one Nield is working to resolve. He said the FAA is targeting this integration, but "the reality will be an evolution."

"We have established a strategic initiative to integrate, safely, the commercial space operations into national airspace," Nield told CNBC.

### **The restricted airspace edge**

Some spaceports use adjacent restricted, remote airspace as a competitive advantage, such as Mojave Air and Space Port in California and Spaceport America in New Mexico.

"We located the spaceport on this big chunk of land below the Department of Defense's restricted airspace" at White Sands missile range, Spaceport America CEO Dan Hicks said. "Our airspace is always owned by the department, and there are only two places in the country like that: over the White House and over White Sands."





## Mark Greenberg | Virgin Galactic

Virgin Galactic's SpaceShipTwo and mothership WhiteKnightTwo stand before their new home, VG Gateway to Space at Spaceport America.

Mojave piggybacks off the airspace of nearby Edwards Air Force Base. Like Hicks, Mojave CEO Karina Drees stressed the advantage, saying it is a "freedom to test and operate."

"Mojave can accommodate essentially any aircraft with our long runway, and we have several rocket sites for test programs," Drees said.

Hicks added that Spaceport America's location adds to its capabilities, saying it has the potential to grow reliably "for customers who want quick access to space."

"We could launch anywhere from every day to even a couple a day," Hicks said, adding the location means its only limit is "scheduling issues with White Sands."

### **Slim operating margins**

A satellite launch considered simple by the industry can cost upward of \$60 million but spaceports see little profit per launch. Instead, Nash sees a spaceport's benefit as a driver for local economies, providing value in the same way a major airport does today.

Drees concurred, saying "the money really is in the vehicle operators."

"Mojave's operations revenue is about \$4 million, and we expect to grow over the next three years by another \$1 million per year," Drees said.





## Mojave Air and Space Port

The Mojave Air and Space Port located in the Mojave desert of California.

She works with four customers at Mojave – Stratolaunch, The Spaceship Company, Virgin Galactic and Masten Space. A typical lease fee at Mojave is around \$50,000 per month, but it varies depending on the square footage a company requires.

Drees said the first launch of Virgin Galactic's Spaceship One craft made "attracting other customers automatic."

With low-cost launchers being built for \$5 million or less, such as Vector Space's Vector-R, Alaska Aerospace must offer services on a lean budget, Campbell said.

"If Rocket Lab says their total mission budget is \$4.95 million, they can't spend \$2 million to launch," Campbell said, before noting his spaceport charges "somewhere in the vicinity of \$200,000 to \$500,000 to achieve full launch costs."



Both SpaceX and Virgin Galactic pay monthly rents for access at Spaceport America, and SpaceX built "a nice launchpad" for testing back in 2012, Hicks said.

### **Next steps for government regulation**

Spaceports have five-year operator licenses from the FAA, which interacts with the facilities frequently, including an annual safety inspection. The bulk of licenses go to launch operators, which Nield says come in "different flavors."

"SpaceX has several different kinds of licenses, and some allow them to launch the same rocket with the same general payload on the same trajectory an indefinite number of times," Nield said.



Patrick Hendrickson | Virginia Space

A launchpad at the Mid-Atlantic Regional Spaceport.

Executives of these spaceports were overwhelmingly positive in their appraisal of the FAA's regulatory work thus far, but some advocated for more

funding and personnel at Nield's branch.

"The FAA has been a really good partner for the industry," Drees said. "Yet the FAA is very understaffed."

Campbell agreed, saying the FAA has "an open mind to vehicle operators showing and launching new concepts," while still accounting for risk well.

"No matter who the rocket company is, the FAA wants to protect people and protect property," Campbell said.

Even those who use Department of Defense airspace, like Spaceport America, believe the FAA is guiding the industry in the right direction. Hicks said he doesn't "want the FAA to think that we and Department of Defense are trying to slide something by them. Instead, he wants to make sure there's as much intergovernmental cooperation as possible.

Nield said he expects the influx of private investment is a boon to the industry, and wants the FAA to help that growth continue.

"Government usually costs a little bit more and takes a little bit longer to do these things," Nield added.