

# Rocket Report: SpaceX nets another boat, Air Force competition heats up

Enlarge / A Falcon 9 rocket launches from Vandenberg Air Force Base.

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Welcome to Edition 2.11 of the Rocket Report! As always, there is lots going on in the world of lift. This week saw a flurry of activity surrounding the US Air Force's competition for launch contracts between 2022 and 2026. Bids were due, and each of the four participating companies had plenty on the line. And already, we've had one protest of the process.

As always, we welcome reader submissions, and if you don't want to miss an issue, please subscribe using the box below (the form will not appear on AMP-enabled versions of the site). Each report will include information on small-, medium-, and heavy-lift rockets as well as a quick look ahead at the next three launches on the calendar.

**Vector "pauses" its operations amid CEO shake-up.** On Friday, Vector sent its employees in Arizona and California home from work, saying the company had failed to raise the needed

capital to keep going, Ars reported. The company said it had parted ways with its chief executive: "Jim Cantrell is no longer with Vector effective today," a spokeswoman said. "John Garvey has assumed the role of CEO." The company has been working on developing its Vector-R vehicle and trying to prepare it for a suborbital flight this summer.

*A ways to go ...* Later, the company issued a longer statement: "In response to a major change in financing, Vector has had to pause its operations. A core team is now evaluating options to complete the development of the company's Vector R small launch vehicle while also supporting the Air Force and other government agencies on programs such as the recent ASLON-45 award." In other words, Garvey is working to shore up investors to keep the project going. Informal reports have suggested the Vector-R vehicle remains *a ways* from flight, let alone orbit. We wish them well but are not brimming with optimism. (submitted by Ken the Bin and Unrulycow)

**Virgin unveils part of its New Mexico spaceport.** Virgin Galactic has officially opened its "Gateway to Space" building at Spaceport America a few months after it started moving staff to its New Mexico facility, Engadget reports. The Earth-themed first floor—with its elevated and interactive digital walkway—will serve as the point of departure and return for spacecraft launching from the port. Meanwhile, the sky-themed second floor has a dedicated space for mission control, as well as a briefing room.

*Moving forward ...* In addition, the VMS Eve aircraft arrived at the spaceport this week. The company plans to use VMS Eve to fly simulated spaceship launch missions from the spaceport in the coming days. Later this year, it will return to Mojave, California, to pick up Virgin's VSS *Unity* suborbital vehicle. That means combined flight tests can be conducted from New Mexico, where commercial flights will take place. This is a good sign that space-tourism flights will begin later this year. (submitted by danneely)

**Virgin is also building a third SpaceShip Two.** The Spaceship Company—Virgin Galactic's space-system manufacturing organization—has completed the systems install and main structure for the wing of the next spaceship in Virgin Galactic's fleet. The completion of this significant assembly means that Virgin's team can begin preparing for the mate of the spaceship's fuselage to the new wing, and it moves the company closer to beginning its flight test program, Virgin said.

*Business must be looking good ...* The first SpaceShipTwo, VSS *Enterprise*, broke up in flight over the Mojave Desert in 2014. The second one, USS *Unity*, is now flying missions above 80km and will be used for commercial flights. The third spacecraft is being built with the anticipation of growing demand for Virgin Galactic's suborbital spaceflight service. (submitted by Ken the Bin)

**Chinese firm takes another step toward a reusable rocket.** China's Linkspace Aerospace Technology Group, a semi-private launch company established in 2014, has carried out its third low-altitude untethered launch and landing test of a reusable launch-vehicle tech demonstrator. According to SpaceNews, this is the latest step in developing a reusable orbital launch vehicle.

*Going higher next time ...* The 8.1-meter-tall, 0.65-meter-diameter, 1.5-metric-ton rocket reached an altitude of 300.2 meters during its 50-second flight before making a powered descent and vertical landing with an accuracy of 0.07 meters, Linkspace CEO Hu Zhenyu stated on Sina Weibo, a Chinese Twitter-like service. The company will move ahead to a kilometer-level test before proceeding to a larger demonstrator. (submitted by Unrulycow and Ken the Bin)

**Eastern Range ready to support 48 launches a year.** With a growing number of companies seeking to launch rockets from Florida's space coast, the 45th Space Wing of the US Air Force says it is making progress toward a more rapid cadence. The 45th Space Wing's goal to support at least 48 launches a year was considered a stretch a few years back, but NASASpaceFlight.com reports that that capability is here: the Range demonstrated last week how it can support rapid turnaround of assets for two launches from the Florida spaceport in a short period of time.

*Working to accommodate future growth ...* With next week's pending Delta IV Medium launch, the Air Force will have supported four launches in four weeks and hit its goal of "one per week" average. Col. Mark Shoemaker, Commander of the 45th Operations Group, was asked about SpaceX's goal of launching up to 100 times a year from Florida, as put forth in its environmental assessment for Starship construction at LC-39A. He said, "I wouldn't say we can't support that. A few years ago, 48 [launches a year] was the stretch goal. We haven't experienced that yet, so to say we can't do that? I wouldn't say that. It depends on the missions, and we're working with the community to make sure we can launch [when needed]." (submitted by Ken the Bin)

**Meanwhile, Vandenberg worried about losing launches.** Alarmed by competitors who are chipping away at Vandenberg Air Force Base's dominance in the space industry, 40 Central Coast regional leaders met last Friday to map out strategic actions to ensure a prominent role for the Central Coast in the fast-growing commercial space-launch industry, the Paso Robles Daily News reports.

*Seeking state funding ...* "We rely on robust collaboration with our industry partners to not only provide assured access to space but also to maximize our range capacity and move forward into the range of the future," Col. Anthony Mastalir, 30th Space Wing Commander at Vandenberg Air Force Base, said.

“Growth of the commercial space industry is essential to economic and security interests of our local community and the nation.” The groups are hoping California invests in improvements at Vandenberg.

**SpaceX gets a second boat to catch payload fairings.** The rocket company will soon start employing a second net-equipped boat during orbital launches, Space.com reports. This is part of an attempt by SpaceX to snag both halves of its rockets’ payload fairings before they splash down in the ocean. The new boat, named *GO Ms. Chief*, will join forces with *GO Ms. Tree*, which has plucked falling fairing halves out of the sky twice in the past six weeks.

*Oh, those puns ...* Yes, that’s Mischief and Mystery out on the open seas for SpaceX. Previously, Musk has said the fairings cost about \$6 million to build, and they’re one of the bottlenecks in SpaceX’s production of Falcon 9 rockets for future missions. Keeping fairings out of the water is critical because of saltwater damage, and now it seems like SpaceX has finally begun to master the art of catching them. As usual, that’s some impressive engineering. (submitted by Unrulycow and Tfargo04)

**Four companies battling for Air Force contracts.** Monday marked the deadline for four US rocket companies to submit bids for Air Force contracts, encompassing all national security launches from 2022 to 2026. This is a hugely consequential and much-contested bid process that has implications for the American aerospace industry for the next decade and beyond, Ars reported. Each company has a lot at stake, and the article runs down what’s on the line for each rocket firm.

*Battling over billions ...* The Air Force is seeking two providers for roughly two dozen launches. The prime contractor

will receive 60% of the launches, while the secondary contractor claims the remaining 40%. The lead-up to Monday's deadline has included heavy political lobbying from the four companies: United Launch Alliance, SpaceX, Blue Origin, and Northrop Grumman. As a result of the lobbying, Congress is considering some changes to the Air Force's procurement policy, including an on-ramp for a third provider during the 2022 to 2026 period. But so far, the Air Force is resisting this. (submitted by Ken the Bin)

**Blue Origin has already protested the contract process.** As we mentioned, the battle for the Air Force launch contracts from 2022 to 2026 is contentious. Blue Origin, in fact, filed a "pre-award" protest with the US Government Accountability Office, SpaceNews reported. The company argues that the rules set by the Air Force do not allow for a fair and open competition.

*Response expected within a few months ...* "The Air Force is pursuing a flawed acquisition strategy for the National Security Space Launch program," states a Blue Origin fact sheet that outlines the reasons for the protest. Once a protest is filed with the GAO, the agency can take up to 100 days to issue a decision. (submitted by Ken the Bin)

**Dream Chaser will fly on Vulcan rocket.** Sierra Nevada has contracted for at least six launches on United Launch Alliance's new Vulcan-Centaur rocket. The launches will send Dream Chaser on supply missions to the International Space Station in 2021. The long relationship between the companies was a key factor in Sierra Nevada's decision to secure additional launches with ULA, SpaceflightNow reported.

*Second launch of Vulcan ...* The first Dream Chaser mission will fly on Vulcan's second flight, according to ULA chief executive Tory Bruno. He also said the company will have a real payload on the rocket's first launch. The company has not disclosed it yet, but Bruno said an announcement was coming

fairly soon. Although the company has not laid out other details about Vulcan's manifest, it seems likely that, after these first two "certification" missions in 2021, the Vulcan booster might receive this coveted status from the US Air Force. (submitted by danneely, Unrulycow, and Tfargo04)

## Next three launches

**August 16:** Electron | Look Ma, No Hands | Mahia Peninsula, New Zealand | 12:57 UTC

**August 19:** Long March 3B | APStar-6D | Xichang Satellite Launch Center, China | TBD

**August 22:** Soyuz | Uncrewed Soyuz test flight to ISS | Baikonur Cosmodrome, Kazakhstan | 03:38 UTC

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