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TECH NEWS

How Amazon's satellite internet dreams fell years behind schedule

Delays one after another have frustrated the progress of Amazon Leo, a long-planned internet service that requires putting thousands of satellites 370 miles overhead.

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By David Ingram

Amazon founder Jeff Bezos was dreaming big in the summer of 2019 when he spoke on a Las Vegas stage about the potential of broadband internet delivered by satellites.

Just months earlier, Amazon [had revealed plans](#) to launch thousands of satellites and didn't seem far behind Elon Musk's rival effort, Starlink, which hadn't yet reached the public testing phase.

"The goal here is broadband everywhere," Bezos said at [Re:MARS](#), an Amazon conference. With satellites in low earth orbit, he said, "you end up servicing the whole world."

But in the past few years, Bezos' dream has had trouble achieving liftoff – and, in one case this year, exploded in dramatic fashion on a rocket launch pad in Cape Canaveral, Florida.

Amazon and Bezos have fallen years behind in their pursuit of a satellite-based internet service, according to an NBC News review of recent federal regulatory filings that lay out extensive delays plaguing the project. The timeline for the service to begin keeps slipping, with the company now aiming for "later this year." Experts said that Amazon is likely to have trouble growing capacity for the foreseeable future for one reason: It can't get its satellites into space fast enough.

In a statement, Amazon said it is encouraged by the early demand and is on track for an initial service this year.

“We’re seeing strong performance with enterprise customers and hundreds of employees already testing the service,” the company said. “And we have the launches, licensing, infrastructure, and operational footprint in place to scale quickly as we deploy more satellites and expand the network. We’re excited to meet customer demand and begin putting service in the hands of those who need it most.”



— Jeff Bezos at the Amazon Re:MARS conference on robotics and AI in Las Vegas on June 6, 2019.

Mark Ralston / AFP via Getty Images

In regulatory filings, the company has emphasized that the delays aren’t its fault because it’s at the mercy of launch companies and shouldn’t be penalized for circumstances “[beyond its control](#).” In its statement to NBC News, Amazon said it has hundreds of flight-ready Leo satellites ready to go up and just needs to find rockets to take them.

Known originally as Project Kuiper and renamed last year to Amazon Leo, the effort is the first

attempt by the Seattle-based tech giant to become an internet service provider.

Amazon pledged to the Federal Communications Commission six years ago that it would have 1,616 satellites in low earth orbit by July 30, 2026, but when that deadline came and went, Amazon had only about 392 satellites – 24% of its goal – in its constellation. Earlier this year, Amazon said it needed another two years to hit the milestone.

The FCC could have responded by telling Amazon to wait in line before launching more satellites, likely hobbling the project. But it decided in June to give Amazon more time, finding that it would be a waste of the company's \$10 billion investment to give up now. It said the service could eventually "[serve the public interest](#)" by increasing competition.

Amazon said in a statement that it still believes it can meet the deployment of its full first-generation constellation, or 3,232 satellites, by the next FCC deadline of July 2029.

Third-party data shows that Amazon Leo began small, behind-the-scenes testing around February, and two of the first customers – AT&T and Vodafone – said their tests are going well, giving some hope to potential subscribers who are eager for another option to connect to the internet, especially from remote locations.

But in the time since Bezos described his starry-eyed vision for satellite internet, his main competitor, Starlink, has surged ahead to dominate the internet-from-space sector. It had 12 million subscribers as of June 30, which is double what it had a year earlier, according to an [earnings report](#) this month from SpaceX, which owns Starlink and where Musk is CEO.

SpaceX has sought to use the regulatory process to shore up its position. In [comments this year](#) to the FCC, it argued that Amazon should be penalized for delays in starting its service because they resulted from "business misjudgments." But several industry groups, including the Computer & Communications Industry Association, disagreed in their own comments to the FCC and sided with Amazon's version of events.

Both federal regulators and potential customers have said they're eager to see a competitor rise up. The FCC, in its June order, cited a need for "more options" with "only one operator, SpaceX" in the business so far, while Speedcast, a satellite communications firm that works with far-flung customers such as cruise ships, said anticipation is growing in the market.

"There is great expectation that Amazon will be a second viable, high-speed, high-performance, low-cost option," said James Trevelyan, executive vice president of global sales at Speedcast.

But first, it needs to get more satellites into low earth orbit, which in the case of Amazon means 370 miles above the planet.

One rocket that was scheduled to bring Leo satellites into orbit [blew up on a launch pad](#) in Cape Canaveral during a test in May, days before the planned launch. The rocket, named New Glenn, belonged to Blue Origin, which was started by Bezos but is a separate company from Amazon. Blue Origin has paused launches as it investigates the cause, which it says was a [faulty engine valve](#), and it is aiming [to resume later this year](#). The Leo satellites [hadn't been loaded](#) onto the rocket when the explosion occurred, so they were not lost, according to Amazon.



— Explosion of Blue Origin rocket at Cape Canaveral, Fla. NSF / NASASpaceflight.com

The delays go deeper than that. Amazon has been relying primarily on United Launch Alliance, a launch service and a joint venture of Boeing and Lockheed Martin, but Amazon [has complained](#) that the initiative's Atlas V rocket has been, at times, unreliable because of

booster problems and other technical issues. The Atlas V rocket is [now being retired](#), but its replacement rocket, Vulcan, has been grounded since February due to [problems with its booster](#).

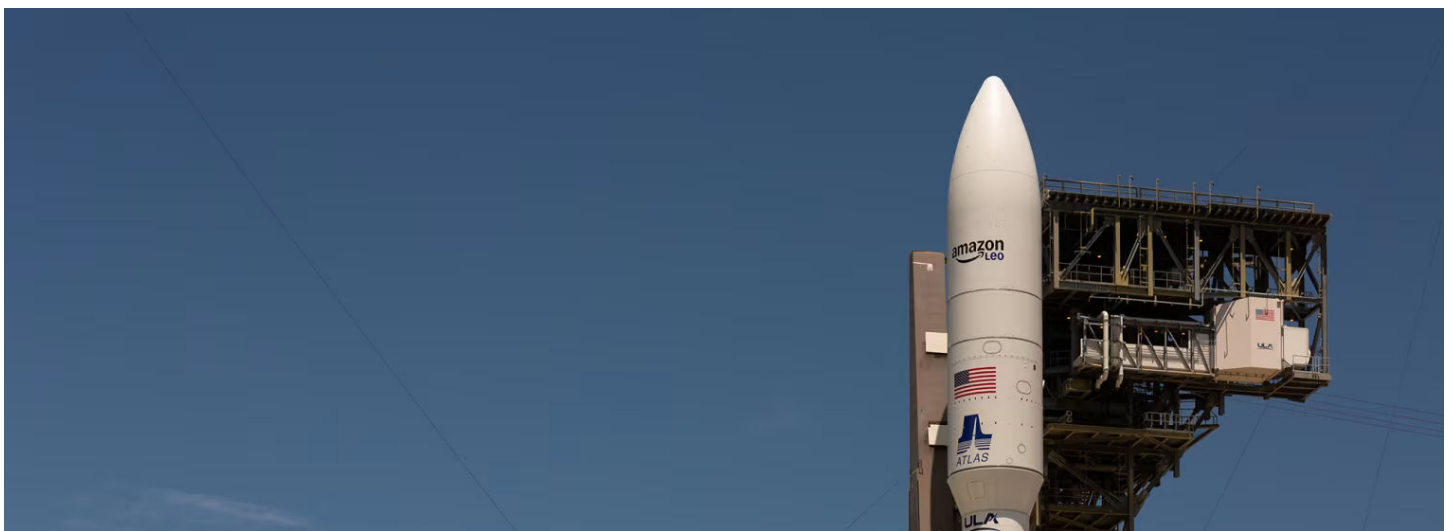
Amazon said [in a regulatory filing](#) that it completed only seven of the more than 20 launches it originally scheduled for last year.

“From the launch of its initial production satellites onward, unexpected slips and scrubs of scheduled launch dates have extended Amazon Leo’s deployment timeline,” the company said.

The delays have had cascading effects. Last year, Amazon Leo won a \$1.1 million federal-state government grant to provide rural broadband in Texas, positioning the project to compete head-to-head with both Starlink and fiber broadband providers. But Amazon ultimately [turned down the award](#), according to Texas state officials. It has signed a similar contract [in Arkansas](#), though.

The company has reportedly also faced delays making its satellites. Citing three anonymous sources, [Bloomberg News reported](#) last year that the company faced delays making its satellites. It said Amazon was struggling to ramp up production of satellites because of supplier constraints and design choices. Amazon, in a [regulatory filing in March](#), said that was not true, telling the FCC that it “calibrated” the pace of manufacturing in order to match “launch availability.”

Industry experts say that Amazon faces a steep challenge trying to catch up to Starlink because of a global bottleneck in rocket launch capacity.





— An Atlas V rocket before launch on July 1. Manuel Mazzanti / NurPhoto via Getty Images

“It’s biting them,” said Clayton Swope, who studies the space industry as a senior fellow at the Center for Strategic and International Studies, a think tank. He also used to work on the project at Amazon before leaving the company in 2023.

“Not to say that Amazon should own a launch company, but this is the one element that is proving to probably be the thorniest thing in Amazon Leo’s side right now,” he said. “It’s hard to know when that will be resolved.”

Starlink doesn’t have that problem. Because it’s owned by SpaceX, which controls [more than 90%](#) of the domestic U.S. market for sending things into orbit, Starlink has about 10,200 satellites in orbit, according to a company [regulatory filing](#). It said it added more satellites in two launches [Saturday](#) and [Tuesday](#).

It’s not clear when Blue Origin and United Launch Alliance will be able to resume sending Leo satellites into orbit. In a statement, United Launch Alliance said it is working hard to have its next-generation rocket, Vulcan, “return to flight this year.” Once it does, Amazon is under contract for 38 Vulcan launches, each of which will carry 40 or more Leo satellites to orbit, according to United Launch Alliance. That would total more than 1,500 satellites.

“ULA has worked closely with the Amazon team since the beginning of the Amazon Leo program, and we have launched the majority of the constellation currently on orbit,” the alliance said.



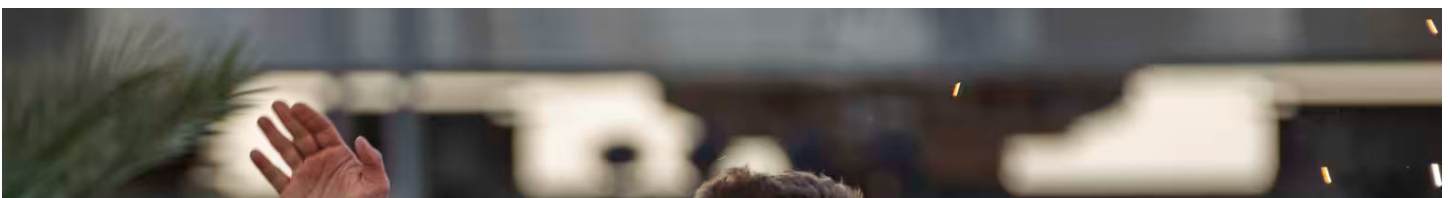


— A United Launch Alliance Atlas V rocket carrying Amazon Project Kuiper on April 9, 2025, in Cape Canaveral, Fla. Miguel J. Rodriguez Carrillo / Getty Images

Blue Origin declined to comment. CEO Dave Limp has spoken previously about the [high demand](#) for launch services and the [long wait that customers face](#). The company is “moving at record speed” to rebuild its Florida launch pad, Bezos said [in a post on X](#) last week.

For now, Amazon is relying on two remaining options for launching satellites: Arianespace, a French company, and SpaceX, which has sold space on 13 rocket launches to Amazon despite their rivalry.

The SpaceX-Amazon relationship is complicated. Speaking about launching satellites for Amazon, Musk said in 2024 that “we treat everyone fairly,” according to [The New York Times](#). It’s unclear, though, whether SpaceX could lawfully deny launch services to Amazon, as legal experts [have debated](#) whether SpaceX could run afoul of antitrust laws that prohibit using market power [in one economic sector](#) to attempt to monopolize a second sector.





— SpaceX founder Elon Musk during a T-Mobile and SpaceX event in 2022.

Michael Gonzalez / Getty Images file

SpaceX is increasingly using space on its rockets for its own satellites, leaving less room for satellites belonging to outside customers, [according to a Reuters](#) analysis of launch data. SpaceX did not respond to a request for comment.

Arianespace has faced [delays of its own](#), but Amazon said in a [regulatory filing](#) this year that it had 18 launches planned with the company. Arianespace said it has successfully completed three of those launches, taking 100 satellites into orbit and leaving 15 launches still to be carried out.

“Arianespace is working closely with all of its customers to establish a consistent and reliable launch schedule, in line with the requirements of each mission,” the French company said in a statement.

Even with the delays, Amazon says it has enough satellites in place to begin offering a service of some kind “[later this year](#).” That’s a delay, though, from April when CEO Andy Jassy said it would start [in mid-2026](#). Amazon has been collecting email addresses for a waitlist since last year, with [a website](#) that promises “a new era of internet” and [a video reveal](#) of a sleek satellite antenna.

Amazon hasn't announced how much it will charge for Leo, but Jassy said in April that it "will come at a lower cost than alternatives." Starlink advertises [three tiers](#) of residential plans starting from \$55 to \$130 a month.

As test users signed on, the service began coming to life earlier this year, according to [traffic data from Cloudflare](#), a cybersecurity company. The data shows internet traffic on Amazon Leo satellites increased suddenly in February and March and has doubled roughly every two months. Cloudflare, though, publishes only trend data, not absolute traffic numbers.

Some early reviews are positive. Vodafone, a British telecommunications company, confirmed to NBC News that it has been testing Amazon Leo. Simon Gordon, a Vodafone spokesperson, said "the performance exceeds our expectations" but gave no other details.

Shawn Hakl, senior vice president and head of product at AT&T Business, confirmed they are also testing Leo. "The results so far are promising, and we look forward to continued testing," he said in a statement.

A spokesperson for Australia's National Broadband Network – which was [included in a list](#) of Amazon Leo's early testers in April – said the network plans to begin testing Leo in the second half of 2026. Its plan is to buy Leo access wholesale for customers in remote Australia.

Other early test customers on Amazon's list include two airlines, Delta and JetBlue. Delta declined to comment beyond a statement [published in March](#) forecasting an initial installation of Leo devices on 500 aircraft beginning in 2028. JetBlue did not respond to a request for comment.

Besides competing with Starlink, Leo will be seeking to take market share from other internet service providers, including fiber broadband providers. Satellite internet can be especially attractive in rural areas where running fiber may be prohibitively expensive.

"It's going to be an arms race – a performance arms race for things like bandwidth," said Swope, from the Center for Strategic and International Studies.

Like Starlink, Leo will need to get government licenses for each country [where it wants to operate](#) – a potentially grueling country-by-country slog where Democratic senators have accused Musk of using [his political connections](#) to facilitate deals. Musk and SpaceX have not weighed in on those allegations, but [the White House has rejected claims](#) that the U.S. government has played any role in the deals.



— People gather to watch a live feed with SpaceX CEO Elon Musk on the day of SpaceX's initial public offering at the Nasdaq MarketSite, in New York, on June 12. Jeenah Moon / Reuters file

Amazon told NBC News that it has secured more than 350 licenses and authorizations in dozens of countries and has full authorization to launch in every country where it plans to offer initial service this year.

And like Starlink, Leo is planning to offer services beyond broadband, including a service for mobile phones. Toward that end, Amazon is in the process of buying Globalstar, a Louisiana-based company that specializes in satellite phone transmission, [for nearly \\$12 billion](#). Amazon says it wants to deploy [up to 5,105 new satellites](#) to use Globalstar's radio frequency spectrum.

Anything that Amazon or SpaceX does with satellite internet gets deep scrutiny from the FCC because the business needs two scarce public resources: spectrum, which is valuable for a wide variety of commercial purposes including communications, and physical space in the earth's orbit that other companies might want for their satellites.

In public statements, the FCC has expressed concern about the Amazon Leo delays, warning

that it does not approve of companies sitting on spectrum and orbital space without actually using it – a practice known as “warehousing.”

The FCC’s Space Bureau [said in June](#) that, because of the delays, it would penalize Amazon by requiring the company to forfeit a surety bond and also by temporarily labeling any new Leo satellites as lower-status in space than they otherwise would be. But the bureau also said that Leo still promises to be “groundbreaking” and that it was in the public interest for Amazon to push forward and focus its resources on deploying its entire planned constellation of satellites in the next three years as it begins commercializing.

Further progress will require patience, analysts said.

“It’s taken Starlink a really long time to get to a place where, performance wise, it competes with fixed wireless and with cellular-provided internet,” said Fiona Armstrong-Mills, a principal analyst at Opensignal, an analytics firm that studies internet reliability.

“There will be a period of teething troubles where Amazon is trying to get to that same level of reliability in terms of having enough satellites to offer consistent coverage and quality,” she said.

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