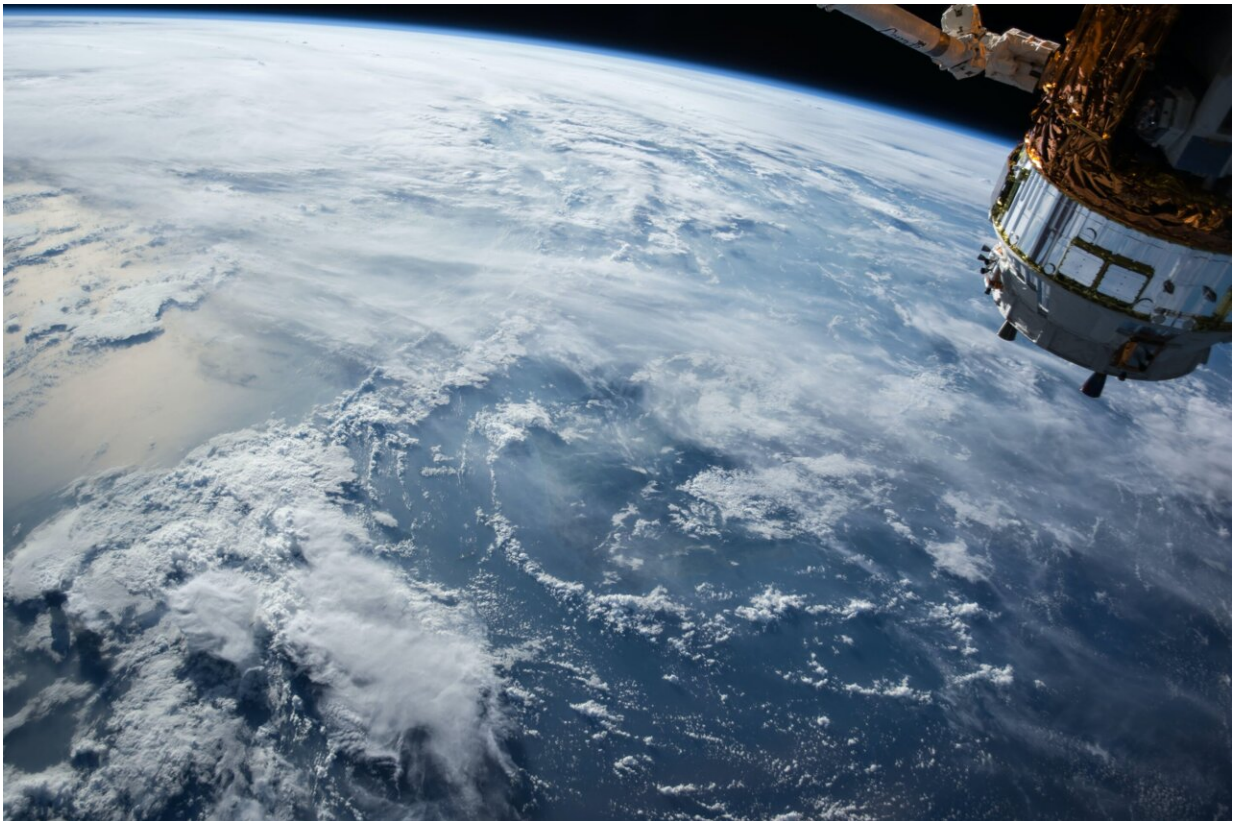


# What is Starlink? Inside the satellite business that could make Elon Musk a trillionaire

December 6 2021, by Michelle Shen

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Credit: Unsplash/CC0 Public Domain

On Thursday, SpaceX launched 48 Starlink satellites into orbit off the coast of Florida. From Arizona to Alabama, people could spot glimmers in the sky as the satellites orbited the Earth's atmosphere.

These streaks of light could be the reason Elon Musk becomes a trillionaire, according to an October report by Morgan Stanley sent to U.S. TODAY.

Morgan Stanley predicted a \$100 billion base valuation for SpaceX, chiefly driven by innovations within Starlink.

"We have long seen SpaceX as multiple companies in one," the report states. "But the largest contributor to our estimated \$100 billion base case valuation for the company (\$200 billion bull case) is the Starlink LEO sat comms business which has had a number of important milestones in recent months."

So what is Starlink, and how will it make Elon Musk the world's first trillionaire?

## **Starlink can bring broadband internet across the globe—along with loads of money for SpaceX**

Starlink is a broadband internet service, specializing in the expansion of coverage to rural and remote communities. It accomplishes this by launching a "constellation" of satellites into low Earth orbit via SpaceX rockets.

Musk created a "symbiotic" relationship between SpaceX launches and Starlink [satellite](#) deployments, where advancements in either sector can reap benefits for both parts of the business, Morgan Stanley says.

As SpaceX rockets become more sophisticated, they can handle larger and more frequent payloads of Starlink satellites. As Starlink satellites gain more customers around the globe, it validates and circulates cash back into the SpaceX rocketry program.

Rocket launches have been a key way for SpaceX to solicit the expertise of NASA, which has sustained a long presence in space through the International Space Station (ISS).

"We've had continuous human presence in low Earth orbit for about 20 years now. But the ISS is nearing its end of life," says Phil McAlister, director of commercial spaceflight at NASA. "Prior to that end of life, we want to have commercial destinations, commercial space stations in low Earth orbit so that we can continue our human research."

The support and funding of NASA has helped SpaceX send a significant body of satellites up into space and create its own presence in low Earth orbit. Starlink now has more than 1,700 internet-beaming satellites circling above, according to Florida Today, part of the U.S. TODAY Network.

Regular people can preorder a Starlink Kit that includes a terminal (used to connect to the satellite providing internet) that they would set up themselves in their own home. The Starlink Kit costs \$499, and the internet service would cost \$99 per month.

While the upfront costs for consumers to set up the terminal is high, it costs SpaceX even more, with estimates from Morgan Stanley reaching over \$2,000 per terminal. SpaceX hopes to achieve economies of scale and eventually bring terminal costs down to \$250 for consumers, Morgan Stanley says.

## **Rural broadband access is lacking, despite the rise of fiber**

Starlink's addressable market is significant, given that much of the world is still lacking [broadband internet](#).

In America, only about 72% of adults in [rural areas](#) have a broadband connection at home, according to February 2021 data from Pew Research Center. The Pew report also found that older people, racial minorities and "those with lower levels of education and income" are less likely to have broadband service at home.

These issues are acute for people living in rural communities all over America, such as Dawn Sutton from Alamance County, North Carolina.

Sutton lives on a rural country road in southern Alamance County where internet cables stop just a mile and a half short of her home. For the past several years, she and her neighbors have periodically reached out to internet service providers asking them to extend access and have continuously been turned down.

In order to complete her work, Sutton goes to her son's house every day and has been doing this for months on end.

Theoretically, companies could lay cable in these areas, but the cost of doing so often outweighs the benefits, leaving people like Sutton stranded.

"If you're a company ... what's the return on investment for you if you're spending a whole lot of money to connect three households?" says Kathleen Stansberry, an Elon University professor who works with the university's Imagining the Internet Center. "It doesn't make great business sense for most companies to do it and to build out services for just a handful of users."

While this may apply to fiber companies, it doesn't necessarily apply to SpaceX and satellite technology.

With the existing rocket technology of SpaceX, shooting satellites into

space may be a quicker way to help people in rural areas get internet, given the high cost of deploying fiber infrastructure, according to CNET.

The revenue brought in from Starlink can help "the company attract large amounts of capital at attractive rates," says the Morgan Stanley report. This could fund further development of more complex launches, such as Starship, a rocket that Musk says could eventually take people to Mars.

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