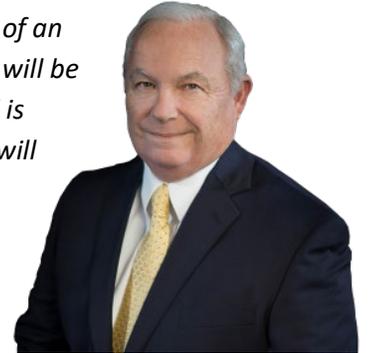


Global broadband Internet

“After extensive research, I am optimistic that Starlink’s ongoing implementation of an extremely high-speed internet service (offered later this year and early next year) will be a quantum step forward for all of us in Boyle County. The cost for each household is projected to be competitively priced. The Starlink project, an element of SpaceX, will eliminate the need to spend taxpayer dollars to provide Internet and will result in higher speed service for anyone who wants it, regardless of their location inside Boyle County.” **Howard P. Hunt III**, Boyle County Judge Executive



The following information are exerts gathered by Judge Executive Hunt from articles at: earthsky.org, wikipedia.com, starlink.com, and spacex.com.

What are Starlink and SpaceX?

SpaceX (the brainchild of Elon Musk) is an aerospace company that is currently developing a constellation of satellites to deliver internet worldwide under the name Starlink. Thanks to [reusable launch rockets](#), these low-orbit satellites cost a fraction of the price of typical satellite launches, making it easier and more affordable to launch satellites at scale.

Isn't satellite internet super slow, you say? Not anymore. SpaceX's satellite internet system is designed to offer blazing fast speeds up to [1 gigabit per second](#).

Within the next year, Starlink expects to offer satellite internet to the entire planet, including remote locations where internet isn't currently available. The plan involves launching a vast constellation of mass-produced satellites into low-altitude orbit. The satellites will transmit internet signals to earth-based hubs, delivering superfast connection speeds.

The plan for delivering SpaceX satellite internet seemed far-fetched until the [Federal Communications Commission \(FCC\) gave SpaceX the thumbs-up](#) to start launching the satellites. Once SpaceX got FCC approval, SpaceX pushed forward to testing and deployment. As of this month, [422 Starlink satellites have been launched](#).

SpaceX told the FCC in April that Starlink “will begin offering commercial service in the northern United States and southern Canada” before the end of this year, “and then will rapidly expand to near global coverage of the populated world in 2021.” Additionally, **SpaceX founder Elon Musk** has declared that Starlink's internet speed will rival existing Earth-bound services, saying in March that the network will have a “latency below 20 milliseconds, so somebody could play a fast-response video game at a competitive level.”



With performance that far surpasses that of traditional satellite internet, and a global network unbounded by ground infrastructure limitations, Starlink will deliver high speed broadband internet to locations where access has been unreliable, expensive, or completely unavailable.

Starlink is targeting service in the Northern U.S. and Canada in 2020, rapidly expanding to near global coverage of the populated world by 2021.

SpaceX intends to provide satellite internet connectivity to underserved areas of the planet, as well as provide competitively priced service to urban areas. The company has stated that the positive cash flow from selling satellite internet services would be necessary to fund their Mars plans.

Starlink is a satellite constellation being constructed by SpaceX to provide satellite Internet access. The constellation will consist of thousands of mass-produced small satellites in low Earth orbit (LEO), working in combination with ground transceivers. SpaceX also plans to sell some of the satellites for military, scientific, or exploratory purposes. The SpaceX satellite development facility in Redmond, Washington houses the Starlink research, development, manufacturing, and on-orbit control operations. The total cost of the decade-long project to design, build, and deploy the constellation was estimated by SpaceX in May 2018 to be about US\$10 billion.



Product development began in 2015, with the first two prototype test-flight satellites launched in February 2018. A second set of test satellites and the first large deployment of a piece of the constellation occurred in May 2019 when the first 60 operational satellites were launched. As of 2020, SpaceX is launching 60 satellites at a time, aiming to deploy 1,584 of the 260 kilograms (570 lb) spacecraft to provide near-global service by late 2021 or 2022.[10] SpaceX is targeting a private beta service in the Northern U.S. and Canada by August 2020 with a public beta following in November 2020.

2020

As of 13 June 2020, SpaceX has launched 540 Starlink satellites. They plan to launch 60 more per Falcon 9 flight, with launches as often as every two weeks in 2020. In total, nearly 12,000 satellites are planned to be deployed, with a possible later extension to 42,000.[55] The initial 12,000 satellites are planned to orbit in three orbital shells:

First: approx. 1,584 in a 550 kilometres (340 mi) altitude shell, then

Second: approx. 2,825 Ku-band and Ka-band spectrum satellites at 1,110 km (690 mi), and

Third: approx. 7,500 V-band satellites at 340 kilometres (210 mi).

On 17 April 2020, SpaceX modified the architecture of the Starlink network. SpaceX submitted an application to the Federal Communications Commission (FCC) proposing to operate more satellites in lower orbits than the FCC previously authorized. The first phase will include 1,584 satellites orbiting at 550 kilometres (340 mi) in planes inclined 53.0°. That part of the constellation, for launch through the end of 2020, remains unchanged.