

FCC approves OneWeb Internet via satellites

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Credit: Wikipedia

(Tech Xplore)—FCC has given OneWeb its green light to bring satellite

Internet to the United States.

Federal regulators voted to give OneWeb approval to use the airwaves that will beam the Internet down to earth, said *The Washington Post*.

In an open commission meeting June 22, *SpaceNews* reported, the FCC approved OneWeb's request that was filed more than a year ago. Caleb Henry said the request was "to provide broadband [internet service](#) to the United States with a constellation of 720 low-Earth orbit (LEO) satellites using Ku- and Ka-band spectrum."

This will involve low-latency broadband from satellites. The FCC said, "In this Order and Declaratory Ruling, we grant the request of WorldVu Satellites Limited, d/b/a OneWeb (OneWeb), for certain rule waivers and a declaratory ruling concerning the conditions under which it will be permitted to access the U.S. market using a proposed constellation of 720 satellites authorized by the United Kingdom."

The FCC also said, "The proposed OneWeb system consists of a constellation of 720 satellites evenly distributed in 18 near-polar orbital planes, at an approximate altitude of 1200 kilometers."

Service could start in 2019. OneWeb's 50Mbps Internet with 30ms latency, said *Ars Technica*, could hit remotest areas by that time.

(This means Internet access would have latencies of around 30ms, just a bit higher than typical cable [systems](#). Speeds would be around 50Mbps.)

Brian Fung in *The Washington Post* provided some background to this story:

"In 2007, Wyler tested the concept by launching a similar satellite network aimed at business customers. That venture, known as O3b

Networks, now has 12 satellites in medium orbit, about 5,000 miles high."

OneWeb is to operate in six wireless bands: 10.7-12.7 GHz, 14-14.5 GHz, 17.8-18.6 GHz, 18.8-19.3 GHz, 27.5-29.1 GHz and 29.5-30 GHz.

Shaun Nichols, *The Register*, said the FCC order now creates "a procedure for the company to build and operate the base stations that relay [transmissions](#)."

The project could provide broadband anywhere in the United States, "particularly in rural areas where it can be difficult to provide fast Internet connections using traditional ground-based cables," said Fung.

HotHardware said OneWeb will initially launch 10 test satellites by 2018 and the rest (710) by [2019](#) if all goes to plan.

Why so many?

"At low-earth orbit," Fung wrote, "the satellites are whipping around the globe rather than permanently pointing at one spot, as a geostationary [satellite](#) would. And that's why OneWeb's new broadband [project](#) is planning for hundreds of satellites."

HotHardware had several details on these satellites.

Their on-board propulsion system will help them stay away from debris.

They will automatically de-orbit and return to Earth once they have reached the end of their life.

Customers installing terminals in their homes will take advantage of the high-speed connections broadcast from satellites. The terminals will be

able to operate with solar panels, battery packs, and WiFi/LTE/3G and 2G radios and provide coverage to cell phones, tablets, laptops and other IoT devices.

SpaceNews quoted FCC Chairman Ajit Pai. "The order lays the foundation for the deployment of future low-Earth orbit satellites while establishing carefully measured standards to ensure that these NGSO constellations won't interfere with their terrestrial or geostationary counterparts, and the order provides that OneWeb will need to accommodate inline interference avoidance and spectrum sharing with other NGSOs in the future."

HotHardware said OneWeb was on a mission "to bring broadband Internet access to everyone around the globe by 2027. "

More information: [transition.fcc.gov/Daily_Relea...
601/DOC-345159A1.pdf](https://www.fcc.gov/Daily_Releases/2017/06/26/601/DOC-345159A1.pdf)

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