

SpaceX Launches the first of many Starlink satellites: what are these?



Credit: mashable.com

What is Starlink Constellation? A satellite constellation is a group of satellites that work together to perform a particular task. SpaceX is developing a satellite constellation called Starlink to provide low cost, high speed broadband internet services from a low Earth orbit.

Wait a minute... haven't we heard this before? We have talked about the [Google Loon project](#) before. This is a venture where Google is using balloons to get internet connectivity to remote areas of the earth. Facebook tried doing this with a drone, and there's a company called HAPSMobile that also has a drone-based approach to solve the same issue. Another company called OneWeb has also launched satellites into space to address this. Forbes magazine says that Amazon has also applied for approval of its own plan to do the same.

Back to Starlink Constellation: The plan is to launch 12,000 satellites into the constellation. On 23rd May, SpaceX successfully sent the first 60 satellites into space from Cape Canaveral, Florida. They were deployed by the Falcon 9 rocket. This is a remarkable achievement and a huge technological leap. SpaceX plans to carry out up to six satellite launches by the end of 2019, after which it will begin to provide internet services to the US and Canada.

The small satellites have solar panels on them for power. They reflect sunlight back to the Earth which makes them visible from Earth during dawn and dusk. Dr. Marco Langbroek, veteran satellite tracker, took a video of the Starlink Satellites on 25th May from Netherlands. The train of lights is pretty mind-blowing. Check it out:

What is the aim of this programme? Currently, 56% of the global population are internet users. The rest aren't, either because it's difficult to get broadband where they live or because it's expensive. With the Starlink Constellation, the hope is to provide internet to 3 billion people who currently don't have access to it. Satellite internet promises to be cheaper so that's great news for those who *do have access* to high speed internet. By developing a space internet network, the dependency on undersea fibre-optic cables will reduce. This can prevent internet disruptions due to accidental cable damage.

Undersea cables? There are fiber-optic cables that have been laid on the ocean floors. Most of our communication flows through these conduits.

OK this sounds great - but what about all the stuff that is floating around in space? [Space junk is a real problem.](#) Stay tuned for our next article on what this is.

How do astronomers feel about more stuff being launched into space? They are a little upset about this turn of events. A string of satellites around the earth and visible in the night sky means that there will be distortion in what their telescopes will be able to record about the stars and planets and natural satellites that are out there in space. It also means that our vision of the night sky might change forever.

What did Elon Musk have to say about this? Here's what he said on Twitter:

There are already 4900 satellites in orbit, which people notice ~0% of the time. Starlink won't be seen by anyone unless looking very carefully & will have ~0% impact on advancements in astronomy. We need to move telescopes to orbit anyway. Atmospheric attenuation is terrible. pic.twitter.com/OuWYfNmW0D

— Elon Musk (@elonmusk) [May 27, 2019](#)

Whoa! Telescopes in orbit? Let's talk about this some more in another article.

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