

# What is Elon Musk's Starlink all about? | Explained

**What is Starlink, and how does it work? Why does it face regulatory hurdles in India? Why hasn't India auctioned satellite spectrum? What impact could U.S. trade pressure have on Starlink's approval? What government approvals does Starlink need?**

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### The story so far:

Bharti Airtel and Reliance Jio have signed distribution pacts with SpaceX Corp.'s Starlink service to bring satellite internet access to India. The distribution pacts are a reversal from the telecom industry's reluctance to quickly make the Starlink service available in India without auctions for the satellite airwaves.

### What is Starlink?

Starlink is a low-earth orbit constellation of over 7,000 satellites that provide internet access to users with ground terminals, which the Elon Musk-owned SpaceX is already selling in around 40 countries. The satellites constantly orbit the earth,

blanketing practically its entire habitable surface with coverage, as long as a given terminal on the ground has visibility to the sky.

The service offers speeds of around 100 megabits per second, comparable with many home broadband connections. However, the “latency,” or the time it takes for a given data packet to travel between a user and terrestrial internet networks, is higher than wired broadband connections in offices and homes.

Satellites work in conjunction with ground stations on earth, which are physically connected to the internet like any other network and beam up connections wirelessly to satellites above them at any given point. □

In India, Starlink may not be that useful in cities and towns with good 5G connectivity or wired broadband coverage, as local speeds and reliability will far exceed what a satellite link currently offers, even with technological advancements. However, in rural and remote areas where “terrestrial” networks have not penetrated deeply, Starlink can offer decent connectivity almost instantly.

## How much does Starlink cost?

There are two costs associated with Starlink: the user terminal — essentially a router — required to access the satellite network and the monthly access fee to stay connected. At present, a residential kit in parts of the U.S. costs \$149, while a portable “roaming” kit costs \$349. Import duty, GST and social welfare surcharges applicable on satellite equipment may push up the hardware price by around 30%.

Without any introductory pricing on the hardware, the equipment may cost anywhere between ₹17,000 and ₹40,000, not including shipping costs from the U.S., where it is developed and manufactured.

Besides this, unlimited residential and roaming plans range from \$120-\$165 in the U.S. It is not a given that this price will be any lower in India, as the cost to provide Starlink service is, by nature of the technology, the same everywhere on earth.

Notably, in Bhutan, where Starlink launched this year, it is priced at 4,200 to 8,400 ngultrum, which may be an indication of the Indian price as well. The Bhutanese currency is pegged to the rupee at parity.

A higher-priced plan for users on the move, called “mobile priority” is available at 21,000 ngultrum (or therefore rupees) per month and offers priority access in case of network congestion.

## When will Starlink be available in India?

Starlink has faced several regulatory hurdles, the sharpest among them being the Indian government's heavy scrutiny of internet services in general and a technology that could provide access anywhere in the country in particular.

SpaceX needs to obtain a Global Mobile Personal Communications by Satellite (GMPCS) authorisation under the Telecommunications Act, 2023. While this authorisation existed in a different form under the Telegraph Act, 1885, the updated rules under the new Act have yet to be published, and it is unclear if the government

will issue such an authorisation under the previous law's subordinate legislation, even though it remains technically in force.

As a part of this authorisation, SpaceX had to convince the Indian government to accept its contentions on revealing corporate ownership data, something it resisted on investor privacy grounds abroad. While reports suggest that this particular hurdle has been passed, the company still needs to obtain a security clearance from the Ministry of Home Affairs. It remains unclear if such a clearance has been obtained.

It is also uncertain whether the company's ground stations in India — where the Telecom Act requires tapping equipment installed onsite to give law enforcement authorities access to the network, a requirement that exists for other internet networks as well — are currently operational.

Finally, Starlink also needs to be allotted wireless spectrum through which it can offer its services. The government has indicated that like other countries, it will not auction this spectrum, as these are narrow beams that can be shared with other providers, unlike the signals emitted by telecom towers on the ground. Telcos have — before tying up with Starlink this year — demanded that this spectrum be auctioned, something that would be a global first. Reliance Jio has commissioned legal opinions that state that auction is the only way to allot satellite spectrum, due to the Supreme Court's 2012 judgment in the 2G scam case, where the top court held that all scarce natural resources must be allocated by auction.

It is unclear if these hurdles will be cleared on time. However, Mr. Musk's ascendancy in the U.S. government, along with trade pressure from President Donald Trump's

administration, has boosted speculation that the government may facilitate Starlink's entry in short order.

Aside from Airtel and Jio's commercial distribution agreements, there have not been any official announcements on forward movement from a regulatory point of view.

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