



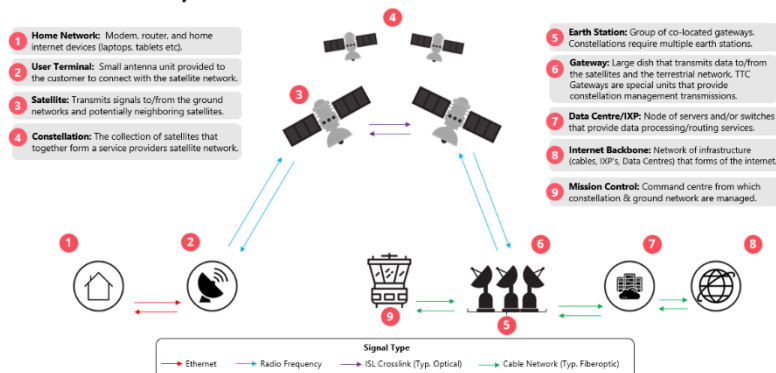
Connectivity through satellites is not new; what's new is the emergence of broadband internet services through Low Earth Orbit (LEO) satellite technology. LEO satellites are smaller and cheaper to manufacture than other satellites, and orbit closer to earth in multiple orbital planes, so they provide better coverage and lower latency services.

LEO satellite providers are on a mission to connect unserved and underserved communities in rural areas to broadband internet services. As LEO broadband service is an emerging technology, different service providers present different levels of risk and opportunity in the short, medium, and long term.

Satellite Ecosystem Fundamentals

Satellite service is provided through satellites which transmit a signal to an antenna on a residence or business using radio wave. Most communications satellites are located above 1,000km. LEOs are typically located below that line. This allows to limit delays in transmission and associated latency that characterize satellites which are further from Earth's surface.

LEO Broadband System Architecture



The LEO broadband landscape is currently being led by SpaceX and OneWeb, each of whom are developing direct-to-consumer business models, wherein each user has their own user terminal they use to connect to the internet. Other players include Telesat. Telesat has adopted a community aggregator business model, where users are connected through a local network to a community terminal.

Alignment with BC Connectivity

Satellite technology is an effective method of serving areas with low-population density, or that are hard to reach. LEO satellites do not, however, represent a fix-all solution to connectivity issues.

What it will solve:

- Connectivity in remote and rural areas where there is no other options;
- Connectivity in difficult to access areas, even if close to urban areas; and
- Deployment in small communities with small bandwidth needs.

What it will not solve:

- Transport needs (i.e., backbone) in remote areas;
- Mobile deployment;
- Cell access in underserved areas; and
- Resilience in areas served by only one service provider.