

LIGHTSPEED™

How can we solve the world's connectivity challenges?



4 Billion

People globally don't have access to affordable, reliable, high-speed internet



2.2 Million

Canadian households fall into the digital divide

Connecting Everyone, Everywhere

People who are unserved or underserved without access to high-speed Internet connectivity are unable to participate in - and benefit from - today's digital world. The 'digital divide' is real. The success, prosperity and empowerment of these communities depend on access to education, healthcare, and the global economy.

There are several challenges to bridging the digital divide, both in Canada and around the world. Rough terrain in rural areas, access to critical resources and cost-prohibitive technologies are roadblocks for traditional internet access.

Connectivity Options: A look at fiber, microwave and legacy satellite technologies

Fiber

Deploying fiber optic cables is extremely expensive and often impossible to install in remote areas with challenging terrains. For areas with only small populations using these connections, it would take decades for service providers to recoup their investment, which means it just doesn't get built.

Microwave

Although initially less expensive than installing fiber, microwave towers require power, which is limited and expensive in remote geographies. Microwave transmissions between towers require a line of sight between stations to the visual horizon, typically only 48-80km which further drives up costs.

GEO Satellite

Geostationary Earth Orbits (GEO) satellites provide internet access across a larger footprint with less terrestrial challenges, but remain an imperfect solution.

Challenges with today's communications satellites

GEO Satellite

~36,000 km from Earth

GEO satellites are capable of serving 1/3 of the Earth's surface from its location, however due to the distance from Earth, the round trip travel time is much longer resulting in:

- ▲ 600-800 MILLISECOND LATENCY
- ▲ GIGABIT CAPACITY
- ▲ MEGABIT SPEEDS
- ▲ NO COVERAGE OVER THE POLES
- ▲ SLOWER INTERNET SERVICE

We believe every person should have access to at least

50 Mbps Downloads speeds  **10** Mbps Uploads speeds



What makes Telesat Lightspeed different?

Lightspeed constellation

~1,000 km from Earth

The proximity of the Lightspeed satellites to Earth and the structure of the Lightspeed constellation—comprising of hundreds of satellites in polar and inclined orbits—provide superior connectivity resulting in:

- ▲ 30-50 MILLISECOND LATENCY
- ▲ TERABITS OF CAPACITY
- ▲ GIGABIT SPEED
- ▲ UBIQUITOUS COVERAGE
- ▲ 20X FASTER THAN GEO



35x Closer orbit to Earth than GEO satellites



298 State of the Art satellites create Telesat's Lightspeed constellation, providing a blanket of connectivity across Canada and the world

Telesat Lightspeed will solve the world's Internet challenges and eliminate the digital divide, resulting in empowered communities that drive:



Economic Growth



Education



Health