

# Telesat LEO

The key  
enabler for  
truly global  
connectivity

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**TELESAT**<sup>TM</sup>

Mario Neri

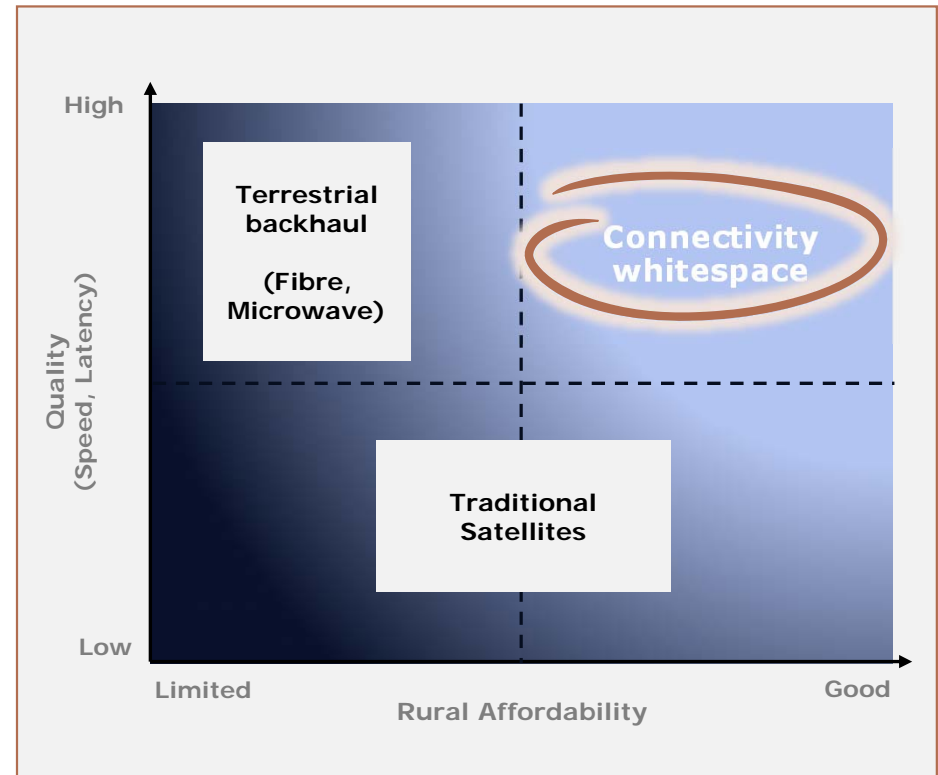
Director, International Coordination

19 Jan 2021

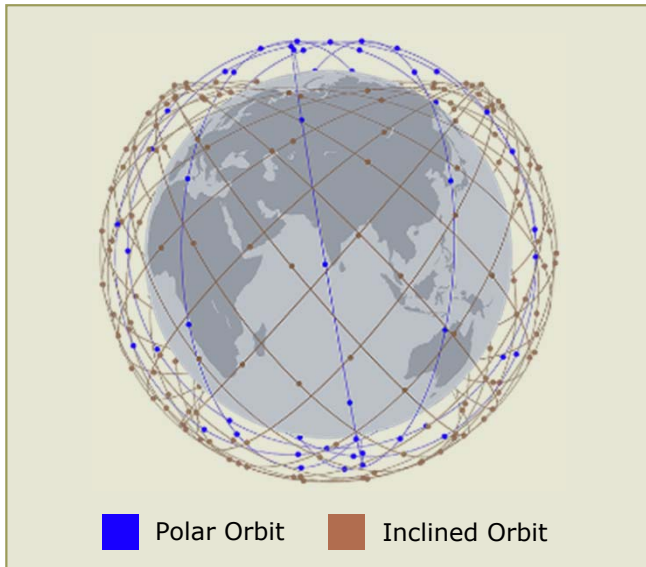


# Introduction – why NGS0?

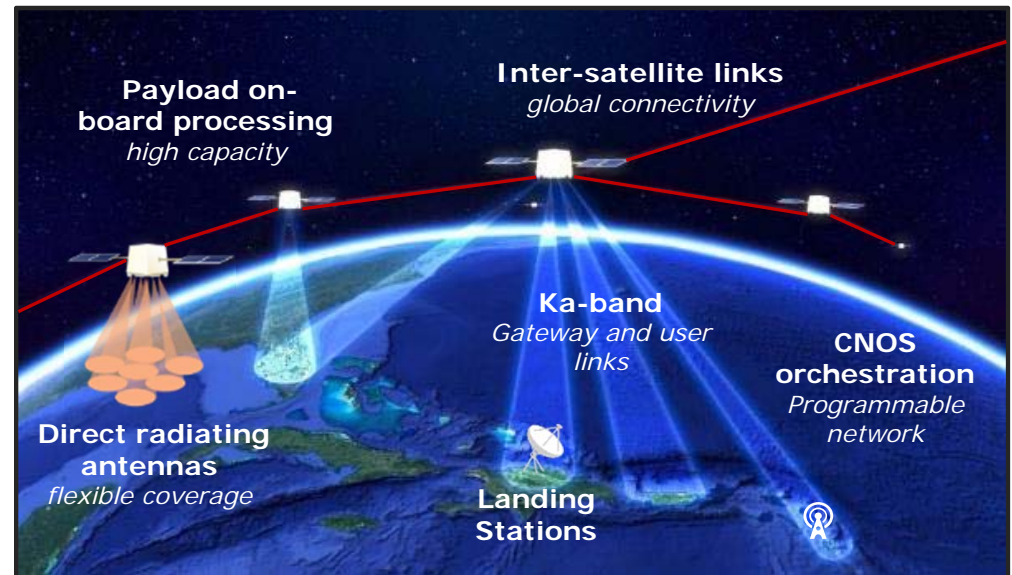
- Clear, rising demand for secure, flexible, fibre-quality connectivity everywhere
  - The current Covid crisis has further highlighted this
  - Clear trend towards integration/convergence between satellite & terrestrial, fixed & mobile
  - Need for coverage of polar regions
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- ✓ Room for additional synergetic solution in an evolving ecosystem: NGS0 global systems can provide terrestrial fibre quality at an affordable price.
  - ✓ Will add choices of connectivity solutions available to citizens, consumers and businesses



# Demand-aligned design + Highly flexible network

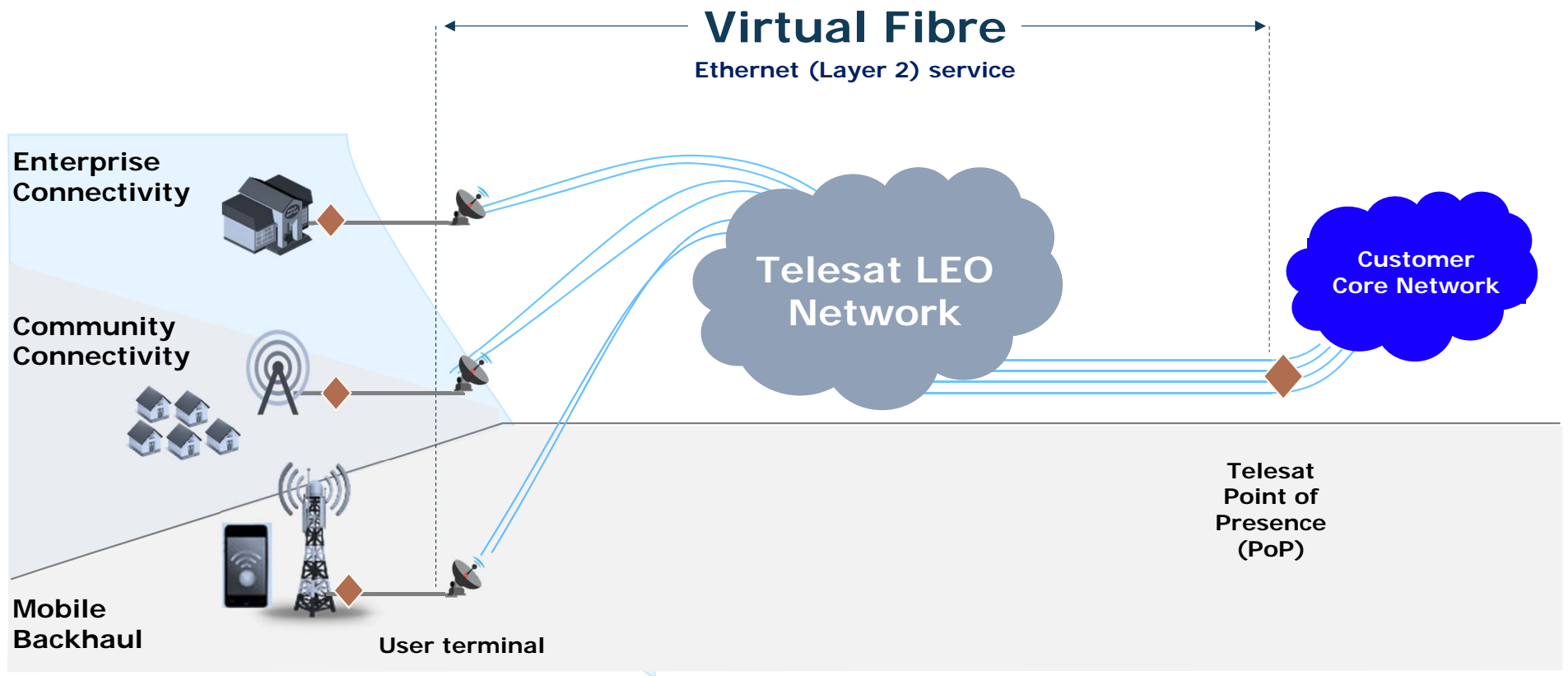


- ▲ Satellite orbits designed to focus capacity over latitudes of highest demand
- ▲ **78 Polar Satellites** in 6 orbital planes at 1,015 km
- ▲ **220 Inclined Satellites** in 20 orbital planes at 1,325 km



- ▲  $\approx 4$  GHz global Ka-band spectrum
- ▲ **Direct radiating antennas with agile, hopping beams** for flexible and focused capacity
- ▲ **On-board processing** for efficient routing
- ▲ **Optical Inter-Satellite Links** create a global mesh network
- ▲ Global network of **Landing Stations**
- ▲ Orchestration via **Constellation Network Operating System (CNOS)**

# Global local "virtual fibre" service

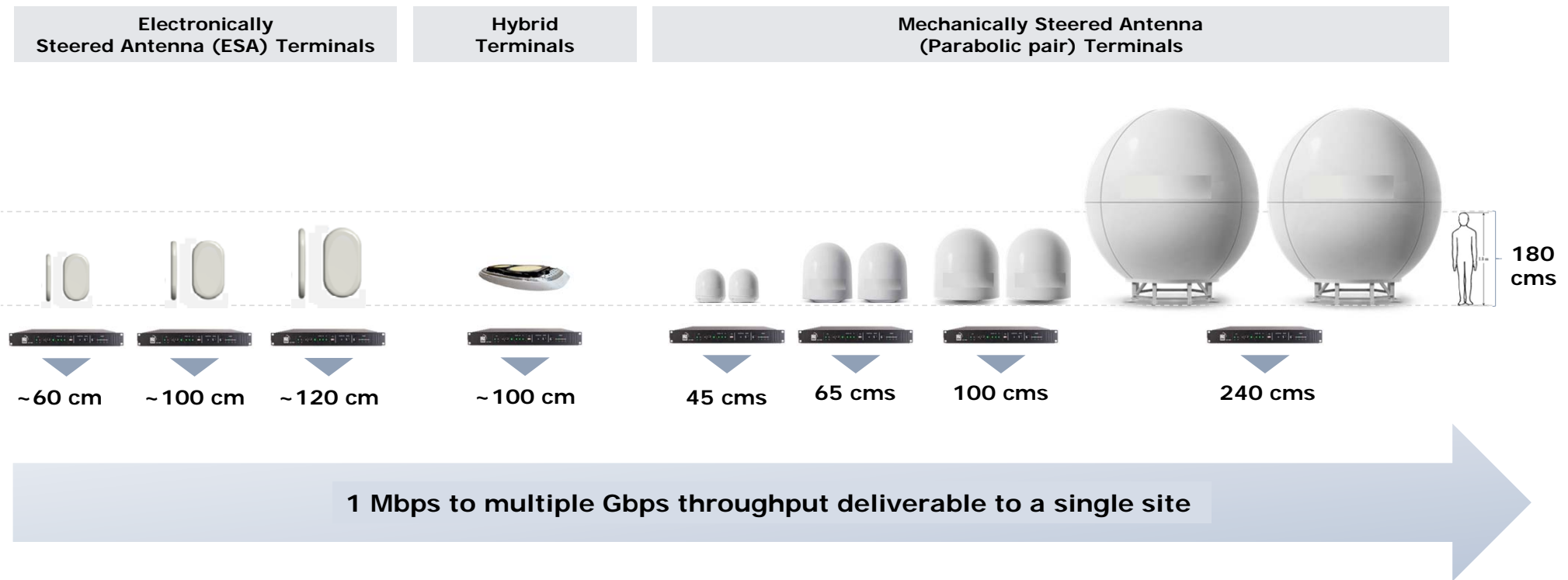


# Affordable, fibre quality connectivity everywhere



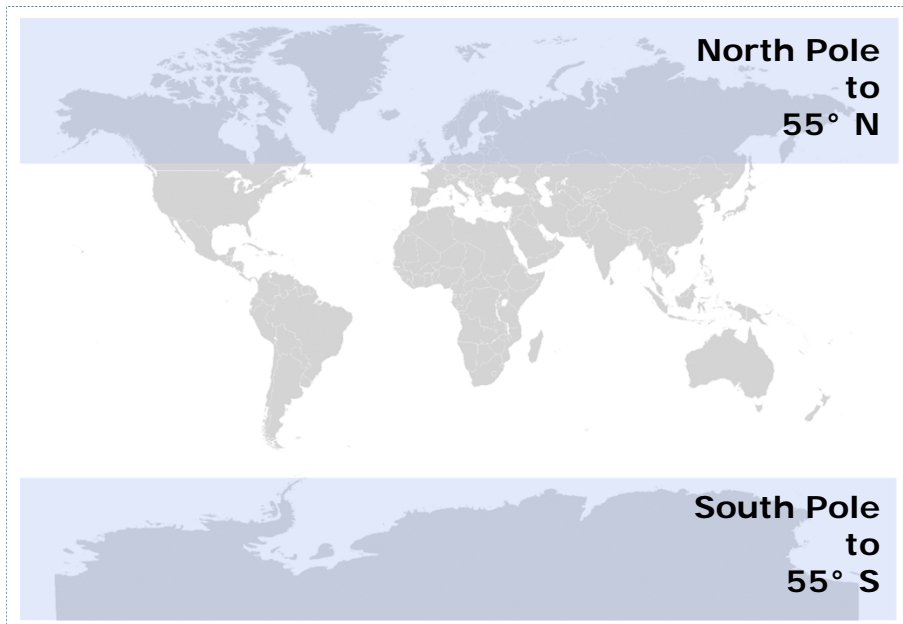
# High throughput to small antenna form factors

ILLUSTRATIVE

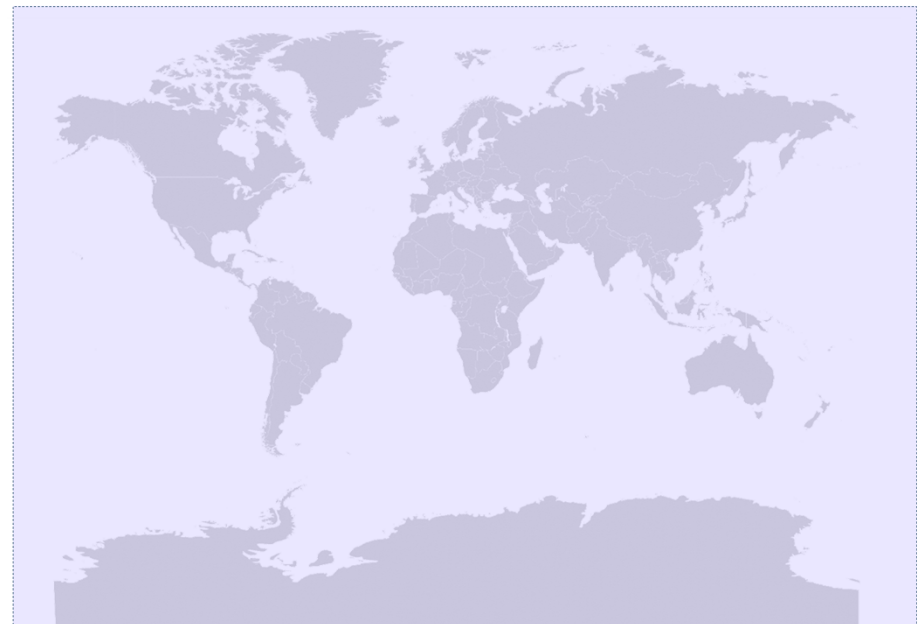


# Service launch timeline

**2022**  
**Polar constellation launches**



**2023**  
**Full global service**














# Multiple successful customer demos



- Telesat LEO Phase 1 satellite launched in January 2018
- First ever broadband link from LEO

Feb '20		Telefonica	<b>Terrestrial</b>	Spain	HD video streaming, video conferencing, VPN testing, large file transfers
Feb '20		Honeywell	<b>Aviation</b>	USA / Canada	Mobile backhaul, Enterprise applications tested
Jan '20		Motorola Solutions	<b>Terrestrial</b>	Canada	Push To Talk, voice and broadband services over LEO
Nov '19		U.S. Navy	<b>Government</b>	USA	High capacity broadband with improved security, flexibility and resiliency
Oct '19		NSSL	<b>Government</b>	England	Encrypted traffic. 4K video conferencing. Streaming video, audio calling
Oct '19		Government of Nunavut	<b>Terrestrial</b>	Canada	Corporate cloud, network and collaboration applications run over LEO
Sep '19	<b>Undisclosed</b>	<b>Undisclosed</b>	<b>Terrestrial</b>	Australia	Video and voice backhaul on 4G LTE over LEO
Jul '19		OmniAccess	<b>Maritime</b>	Spain	Online video gaming, conferencing and drone operation on the SPs network over LEO
Apr '19		Vodafone	<b>Terrestrial</b>	England	First ever 5G backhaul over LEO
Dec '18	<b>Undisclosed</b>	<b>Undisclosed</b>	<b>Maritime</b>	Norway	Video streaming and conference calling
Nov '18		Global Eagle	<b>Aviation</b>	Canada	In flight broadband video conferencing, VPN connection and entertainment applications



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