

A detailed illustration of the Telesat Lightspeed satellite constellation. Several satellites are shown in orbit around Earth, with blue laser lines connecting them to form a network. The Earth is shown from space, with city lights visible on the continents. A crescent moon is visible in the upper right corner of the frame.

**TELESAT**  
**LIGHTSPEED™**

# **Telesat Lightspeed Overview**

*September, 2026*

**TELESAT™**

# Global, trusted satellite operator with 55+ years of innovation

## Locations

**Headquarters:** Ottawa, Canada

**Sales Offices:** London, Ottawa, Rio de Janeiro, Singapore, Washington, DC

## Publicly Traded

NASDAQ and TSX: TSAT



## Telesat GEO

- **14 active** GEO satellites
- **CA \$571M** revenue 2024
- **CA \$1.1B** GEO backlog YE 2024
- **Global** customer base

### ENTERPRISE & CONSULTING



### BROADCAST



*\*Sample customers only*

## Telesat LEO

### Next-generation satellite connectivity for Enterprises & Governments

- Guaranteed performance (SLAs)
- Public/Private network support
- Standard/Custom user terminals
- Telco industry standards compliant
- Secure & Resilient

## **TELESAT** **LIGHTSPEED**™

~**US\$320B** addressable market in 2032

~**US\$3.8B** fully financed network

~**CA \$1.1B** LEO contracted backlog 5/2/2025

Global service starting in **2028**



## Telesat Lightspeed Designed to Serve Enterprise and Government Market with Mission-Critical Connectivity



### **Low Latency**

30 to 50 msec



### **High Speed & High Capacity**

Gbps links to user terminals



### **Cost Effective**

Transformational economics



### **Fully Global**

Anywhere, Anytime



### **Reliable, Resilient and Secure**

Distributed, resilient and interference resistant



### **Advanced Enterprise Features**

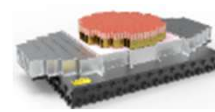
MEF 3.0 compatible for seamless network integration; industry leading SLAs; customer ability to manage their network

# Telesat Lightspeed Advanced Technologies

- **Software-defined satellites** with on-board data processing for dynamic routing in space
- **Direct Radiating Antennas** using Ka-band with beam hopping capable of about 1,500 logical beams per satellite
- **Optical Inter-Satellite links** create a global resilient mesh network in space
- **Advanced Constellation Network Operating System** ensures secure and reliable operations
- **Guaranteed performance** levels based on global telecom standards
- Flexible **User Terminal solutions** with flat-panel and parabolic technologies

Initially 225 satellites.  
Constellation to be expanded with demand growth.

Early service 156 satellites at 1,335 km altitude,  
24x7 service globally



*Digital Beamformer, Direct Radiating Antenna (DRA)*



*On-board processor*



*Optical Inter-satellite Links*



*Flat Panel & Parabolic User Terminals*



*Software defined network*



*Secure & Guaranteed (SLAs)*

## Telesat Lightspeed timeline: start of service, Q1 2028

Tests & Demos

Commercial Service

Technology demo  
on LEO 3 satellite

Network Emulator for service  
testing

Telesat Lightspeed  
satellite launches  
begin  
Q4 2026

Field Trials  
Q3 2027

Global service begins  
Q1 2028

TELESAT  
**LIGHTSPEED**™

Fully funded, next-generation, enterprise-class LEO network  
delivering resilient, high-capacity connectivity  
everywhere – land, sea, and air

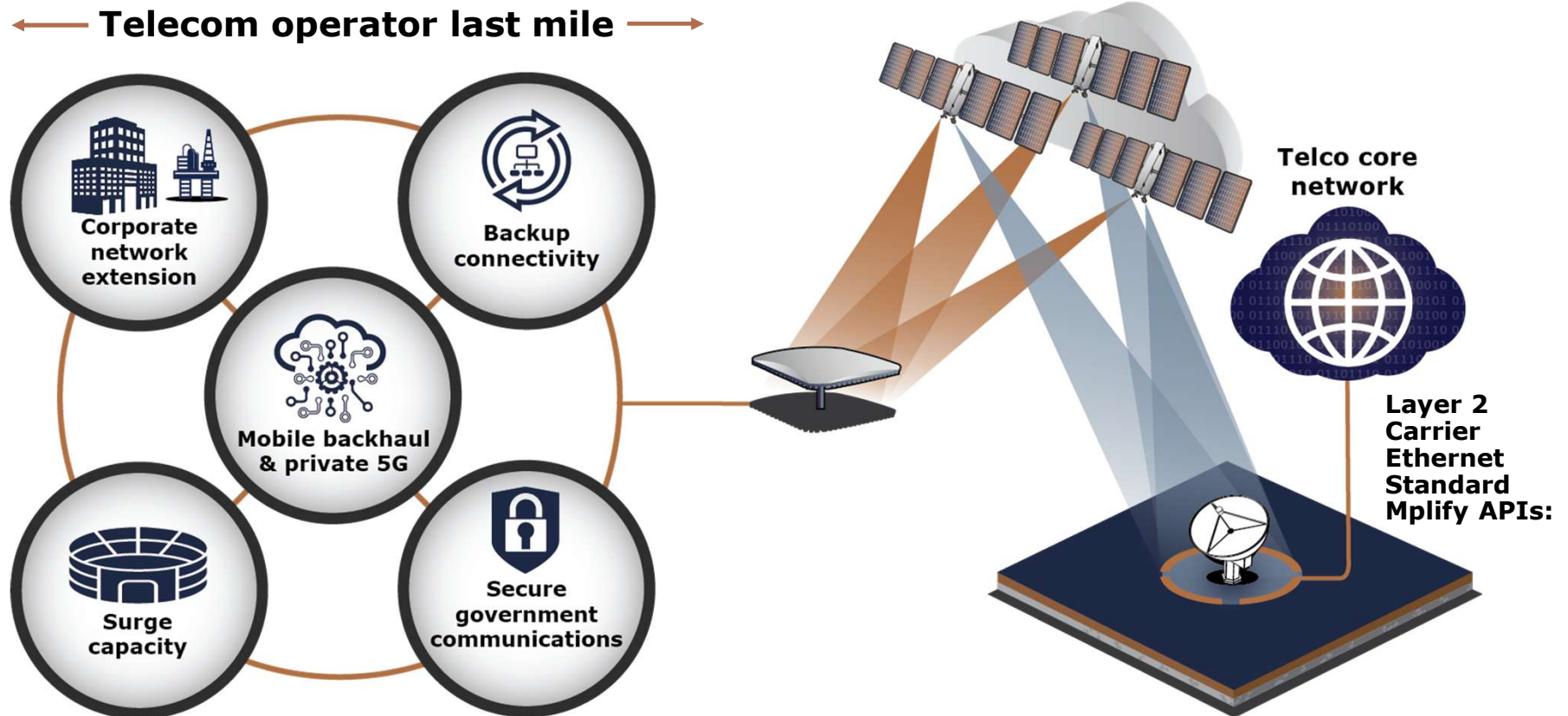


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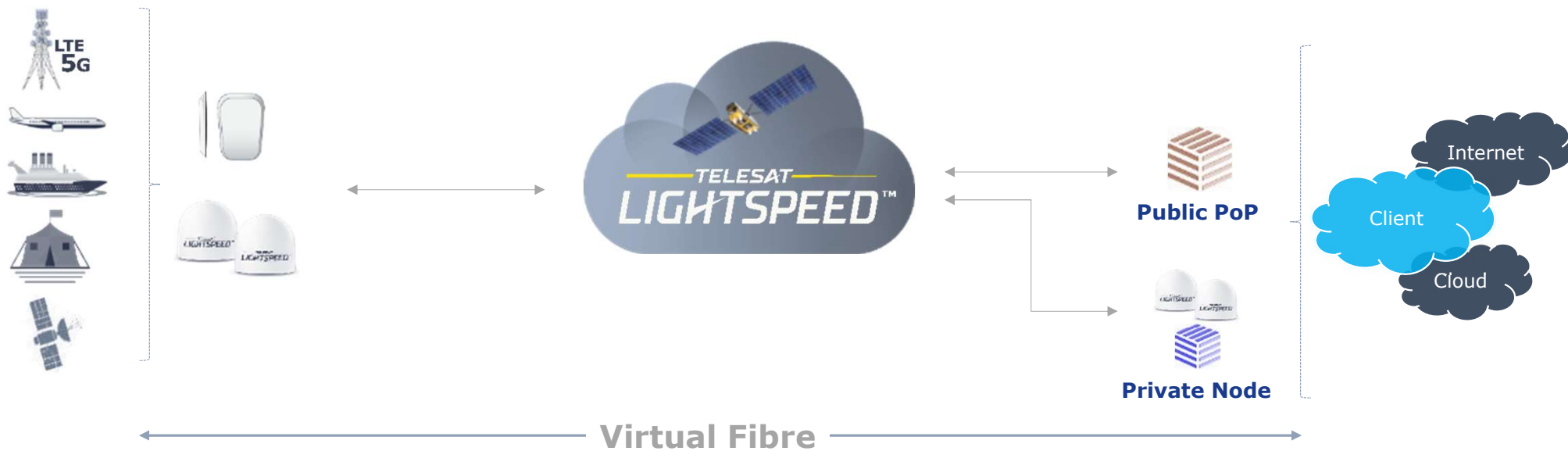
## **Lightspeed Product Overview**

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# Mplify (Formerly MEF) 3.0 Carrier Ethernet VNO



# Telesat Lightspeed provides assured, configurable broadband for fixed and mobile use cases



## User Terminals

- ▲ Enterprise-class
- ▲ Flat-Panel & Parabolic options

## Connectivity Services

- ▲ Ethernet, Internet
- ▲ Services available flexibly as a Pool

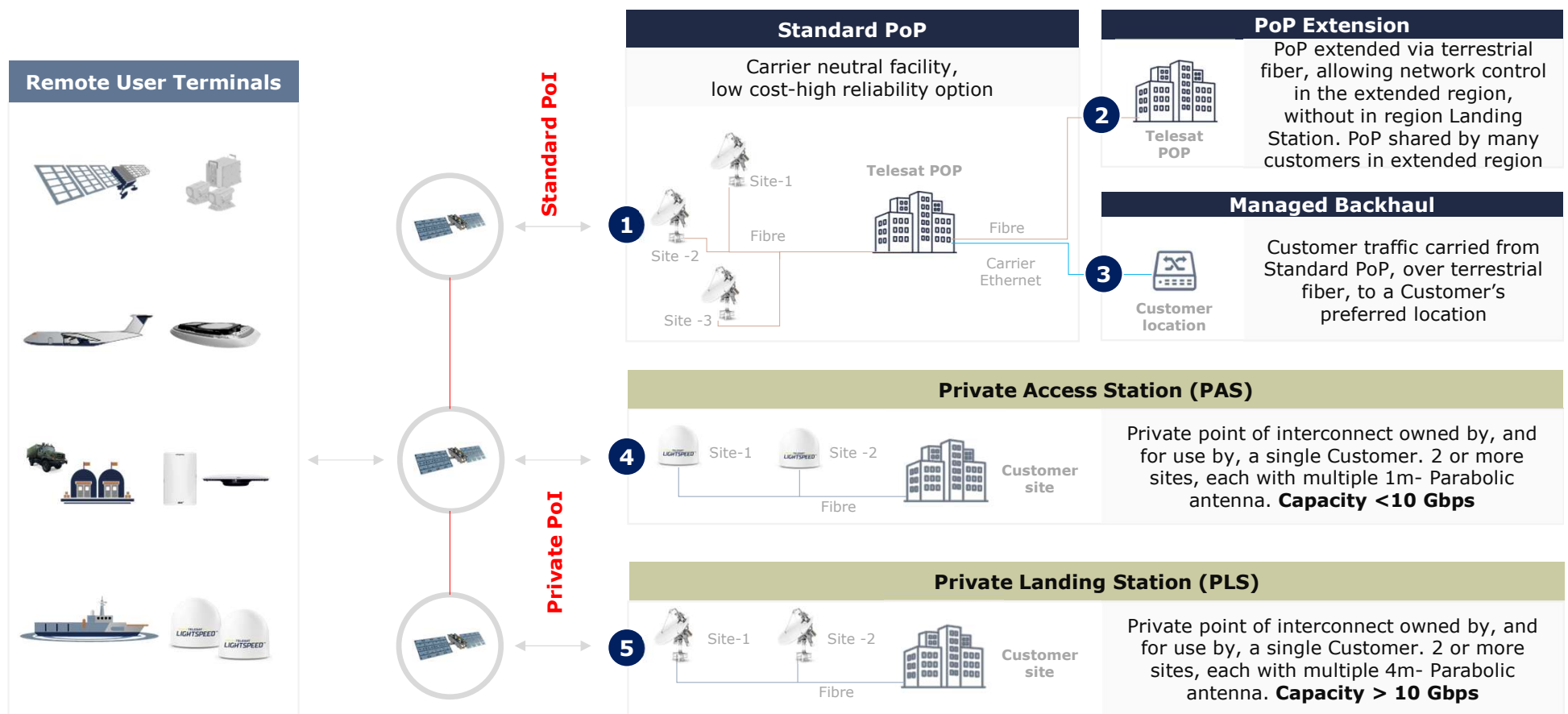
## Customer Platform

- ▲ Portal
- ▲ Application Programming Interface (API)

## Point of Interconnect

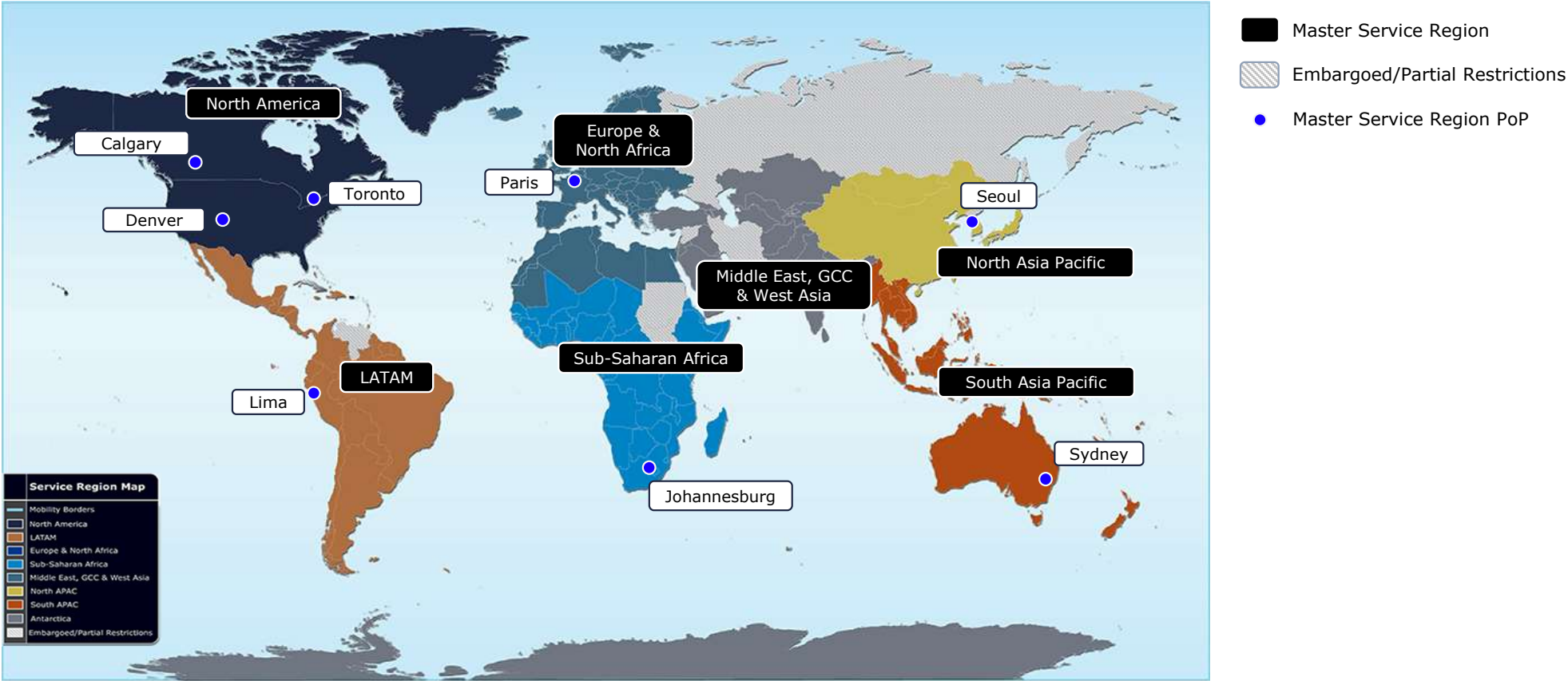
- ▲ Public Point of Presence (PoP)
- ▲ Private Node
- ▲ Also, UT-to-UT mesh service

# Flexible Public and Private options to interconnect with Service provider network



# Telesat Lightspeed Service Regions & Points of Interconnect – Fixed Services

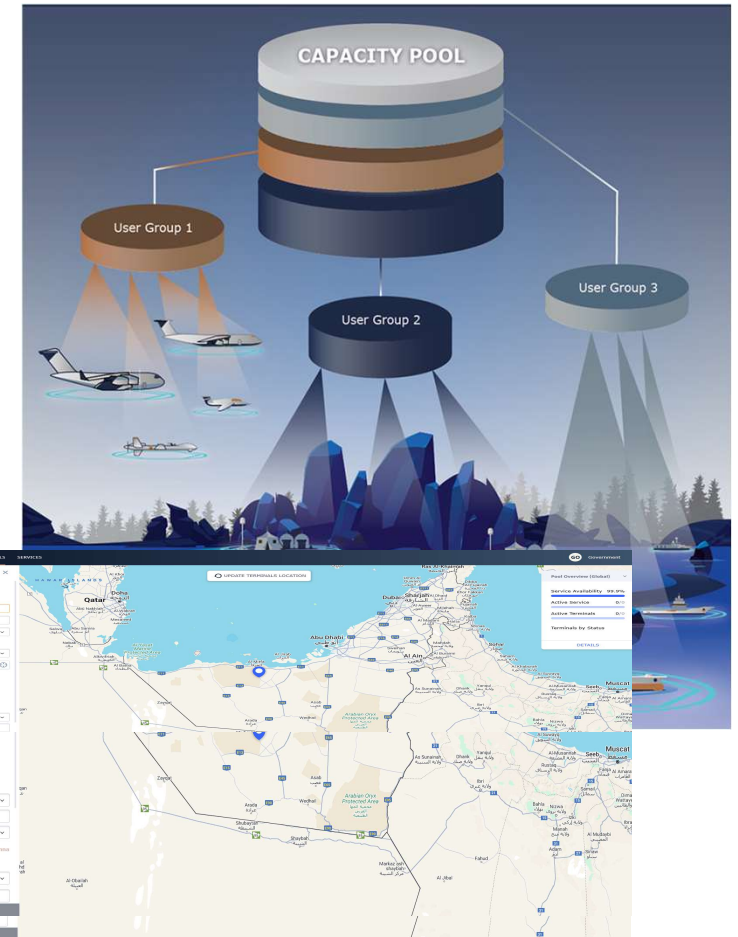
Preliminary



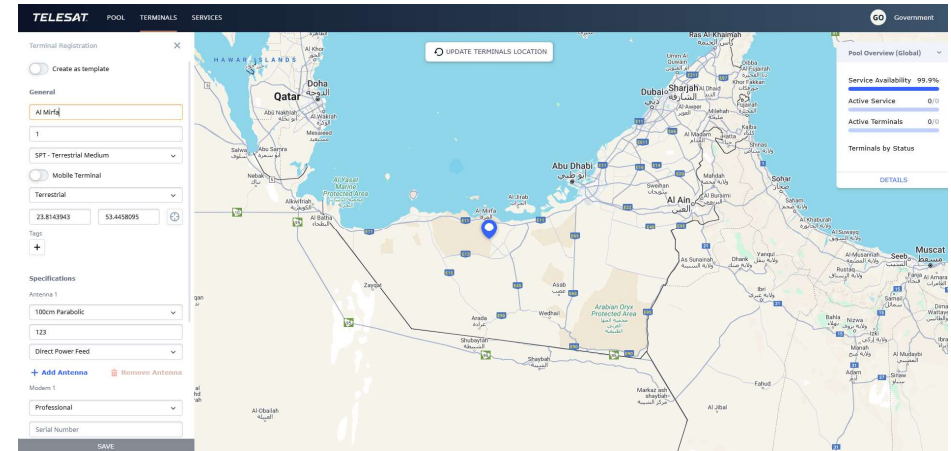
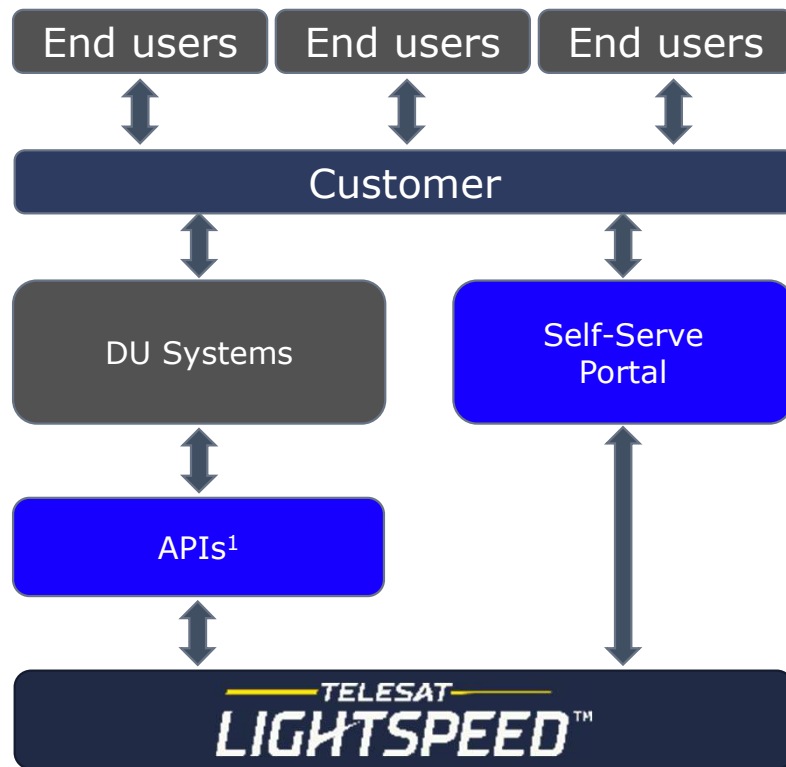
# Smart Virtual Network Operator (VNO) Pool for DU to operate flexibly and autonomy

DU will have unparalleled flexibility, oversight and management of its network services, with Telesat Lightspeeds Virtual Network Operator (VNO) Pool of Capacity:

- Capacity pool offered for DU's region of operation
- DU Independently manages UT's, network configurations, operations, and service provisioning without external dependency
- Carrier Ethernet MEF 3.0 standards, ensures standardized interfaces and easy integration of DU and Telesat Lightspeed network



# DU will receive Customer Portal and APIs - Direct Service Visibility and Control



Portal and API empowers customer to undertake variety of functions directly

- ▲ Manage User Terminal Equipment
- ▲ Manage Services
- ▲ Monitor network

# Customer will receive Performance Objectives & SLAs for individual services over Telesat Lightspeed network

## ▲ Performance Objective (PO)

- Telesat provides POs for each service, measured from the Telesat Lightspeed point of demarcation
- Based on distance between UT and PoI ('Performance Tier')

| Performance Tier                                                      | ≤1400 km |        | 1,400 - 1,900 Km |        | 1,900-8,000 Km | >8000 Km |
|-----------------------------------------------------------------------|----------|--------|------------------|--------|----------------|----------|
| Class of Service                                                      | 1        | 2 - 4  | 1                | 2 - 4  | All            | All      |
| Service Availability                                                  | 99.5%    |        |                  |        |                |          |
| Frame Delay (95 <sup>th</sup> percentile one-way, aka Latency)        | ≤40 ms   | ≤45 ms | ≤50 ms           | ≤55 ms | ≤90 ms         | ≤150 ms  |
| Inter-Frame Delay Variation (95 <sup>th</sup> percentile, aka Jitter) | ≤20 ms   | ≤25 ms | ≤20 ms           | ≤25 ms |                |          |
| Frame Loss                                                            | ≤0.5%    | ≤1 %   | ≤0.01%           | ≤1 %   |                |          |

## ▲ Service Level Agreement (SLA)

- Telesat will offer service credits for performance degradation below SLAs

- **Service Availability** ≥ 99.5%
- **Inter-Frame Delay Variation (IFDV)** ≤ 25 milliseconds one-way
- **Frame Loss** ≤ 1%
- **Frame Delay**
  - ≤ 45 milliseconds one-way (Performance Tier 1)
  - ≤ 55 milliseconds one-way (Performance Tier 2)
  - ≤ 90 milliseconds one-way (Performance Tier 3)
  - ≤ 150 milliseconds one-way (Performance Tier 4)

## ▲ Other points:

- CoS allocation for any Ethernet service will be CoS 1: 10%, CoS 2: 20%, CoS 3: 30% and CoS 4: 40%
- Above PO/SLAs relate to Telesat catalog (Make-Before-Break) UTs; for other UTs, PO/SLAs will vary



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## User Terminals

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## Telesat Lightspeed user terminal solutions

Telesat works with vendors to offer a portfolio of user terminals that address the unique business needs and use cases of network operators across enterprise, telecom, aviation, maritime, and government industries

- ▲ Two procurement paths through Telesat vendors:
  - Direct procurement from UT vendors within Telesat ecosystem, or
  - From Telesat as a managed service
- ▲ UT development options:
  - Telesat to develop with select vendors
  - Vendors develop their own UTs and are type approved through Telesat

# User Terminals available via ecosystem of manufacturers

|            | Parabolic                                                                                                                                                      | Flat panel                                                                                                                                                                                                               |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Enterprise |  <p>65 cm, 100 cm</p>                                                         |  <p>Enterprise FPA</p>                                                                                                                |
| Maritime   |  <p>100 cm and 150 cm Upgrades</p>                                            |  <p>Maritime FPA</p>                                                                                                                  |
| Aviation   |  <p>QEST Dual Panel Antenna</p>                                              |  <p>Thinkom Ka2517   Thinkom Ka1717   ARINC 792 ESA   Business jet ESA</p>                                                           |
| Government |  <p>MIL-spec versions of commercial enterprise &amp; maritime terminals</p> |  <p>Integrator led custom FPA for land mobility   MIL-spec versions of aviation terminals   Integrator led custom FPAs for UAVs</p> |

# Enterprise user terminal portfolio

| User Terminal Description                              | Size<br>(Per antenna,<br>ø x H / L x W x H) | Weight<br>(Per antenna) | Peak Power<br>(Per UT) | Up To Data Rate (Mbps) MIR |        | Sustained Data Rate (Mbps) CIR |        |
|--------------------------------------------------------|---------------------------------------------|-------------------------|------------------------|----------------------------|--------|--------------------------------|--------|
|                                                        |                                             |                         |                        | Downlink                   | Uplink | Downlink                       | Uplink |
| Enterprise FPA-C                                       | 55 cm x 50 cm x 15 cm                       | 16 kg                   | 325 W                  | 720                        | 100    | 30                             | 8      |
| Enterprise FPA-S                                       | 80cm x 60 cm x 15 cm                        | 30 kg                   | 650 W                  | 1030                       | 190    | 70                             | 8      |
| 100 cm Dual Parabolic<br>(3 W BUC)                     | ø130 cm x 125 cm                            | 75 kg                   | 420 W                  | 1,390                      | 320    | 430                            | 70     |
| 100 cm Dual Parabolic<br>(20W BUC)                     | ø130 cm x 125 cm                            | 75 kg                   | 700 W                  | 1,390                      | 410    | 430                            | 160    |
| 2x 100 cm High<br>Performance Parabolic<br>(2 Carrier) | ø130 cm x 125 cm                            | 80 kg                   | 800 W                  | 2,090                      | 730    | 1020                           | 520    |
| 3x 100 cm High<br>Performance Parabolic<br>(2 Carrier) | ø130 cm x 125 cm                            | 80 kg                   | 800 W                  | 3,060                      | 1,300  | 2,040                          | 1,040  |
| 4x 100 cm High<br>Performance Parabolic<br>(2 Carrier) | ø130 cm x 125 cm                            | 80 kg                   | 800 W                  | 4,590                      | 1,950  | 3,060                          | 1,560  |

Small terminals optimized for size, weight, & power.  
Larger terminals optimized for high throughput requirements.



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## Network Emulator

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## Lightspeed Network Emulator

The Telesat Lightspeed Network Emulator is a state-of-the-art physical tool designed to demonstrate the Enterprise-Class, Layer-2 Carrier Ethernet service of the Telesat Lightspeed network.



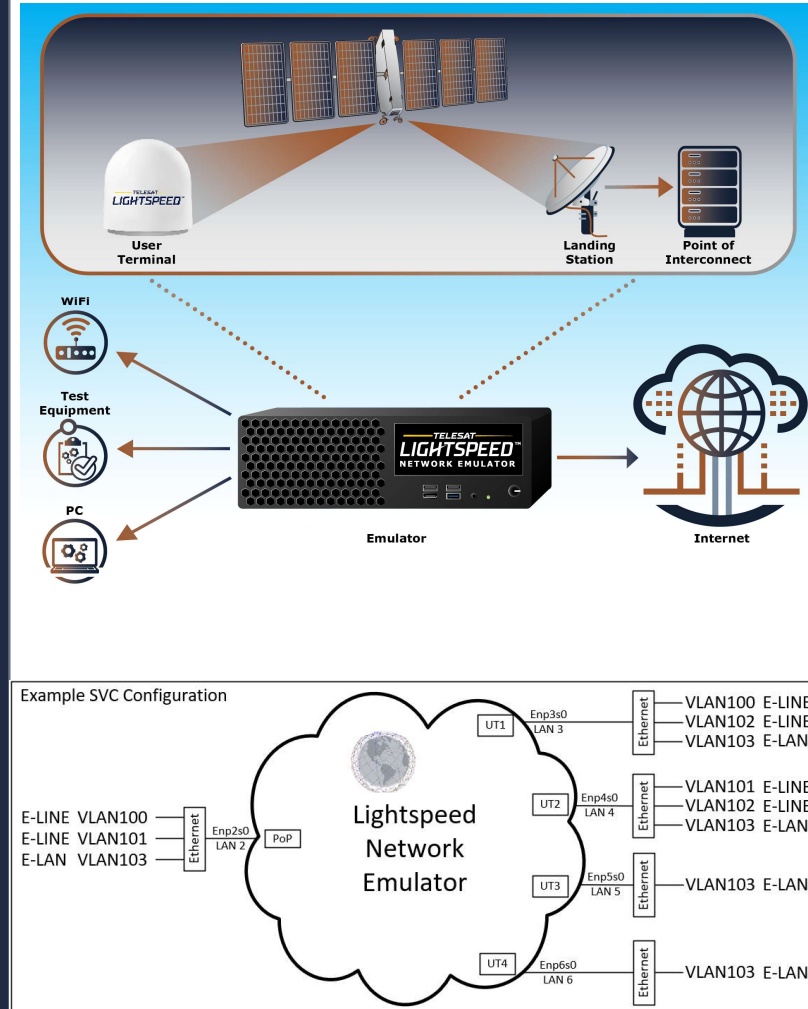
# Features

## ▲ Emulator capabilities:

- 1 Point of Interconnect (PoP), up to 4 User Terminals (UT)
- Emulation for a catalog of Telesat Lightspeed UTs to support various market segments and use cases
  - Enterprise -Aviation -Maritime
- Make before break (MBB) and break before make (BBM) handovers
- Pre-loaded default configuration scenarios with UT locations or routes
- GUI Dashboards to view Constellation and Links, Logical Network, End-Point types, Service configurations and performance
- Ability to connect external devices to PoP and UT ports, i.e. Internet, traffic generation tools

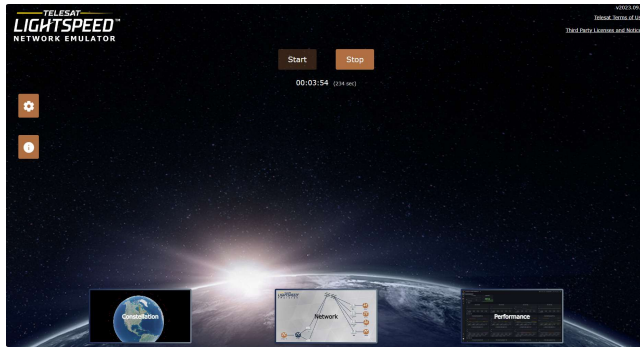
## ▲ Service configurations:

- Fixed and Mobile services categories
- Multiple services per end points (PoP-UT, UT-UT)
- E-Line and E-LAN services types
- VLAN-based service configuration
- QoS support (CIR/EIR policing, packets marking and scheduling)
- Weather impairment at UT and PoP

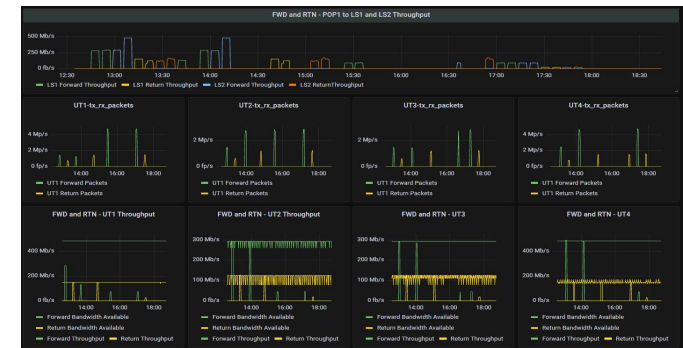


# Emulator Display and Dashboards

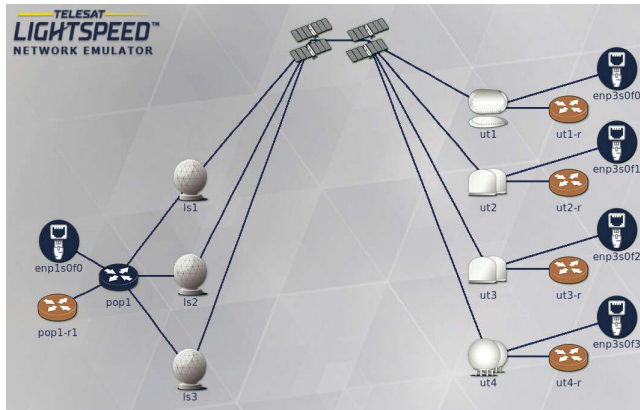
## Configurations & Controls



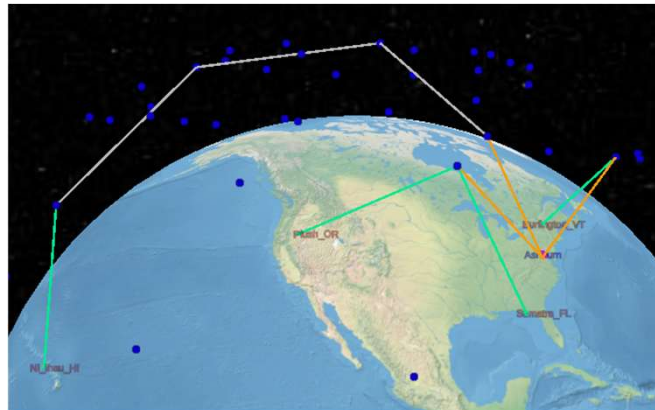
## Service Performance



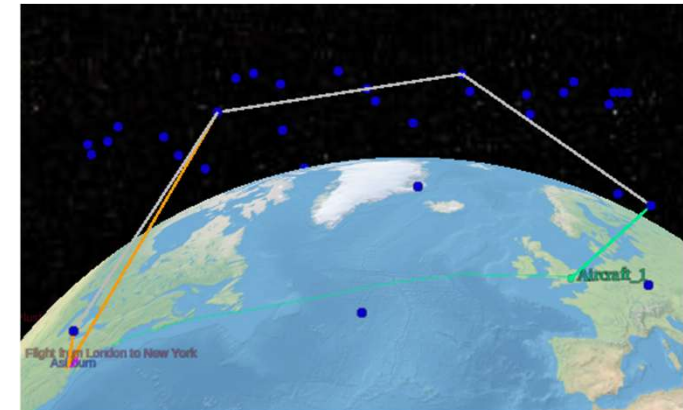
## Network View

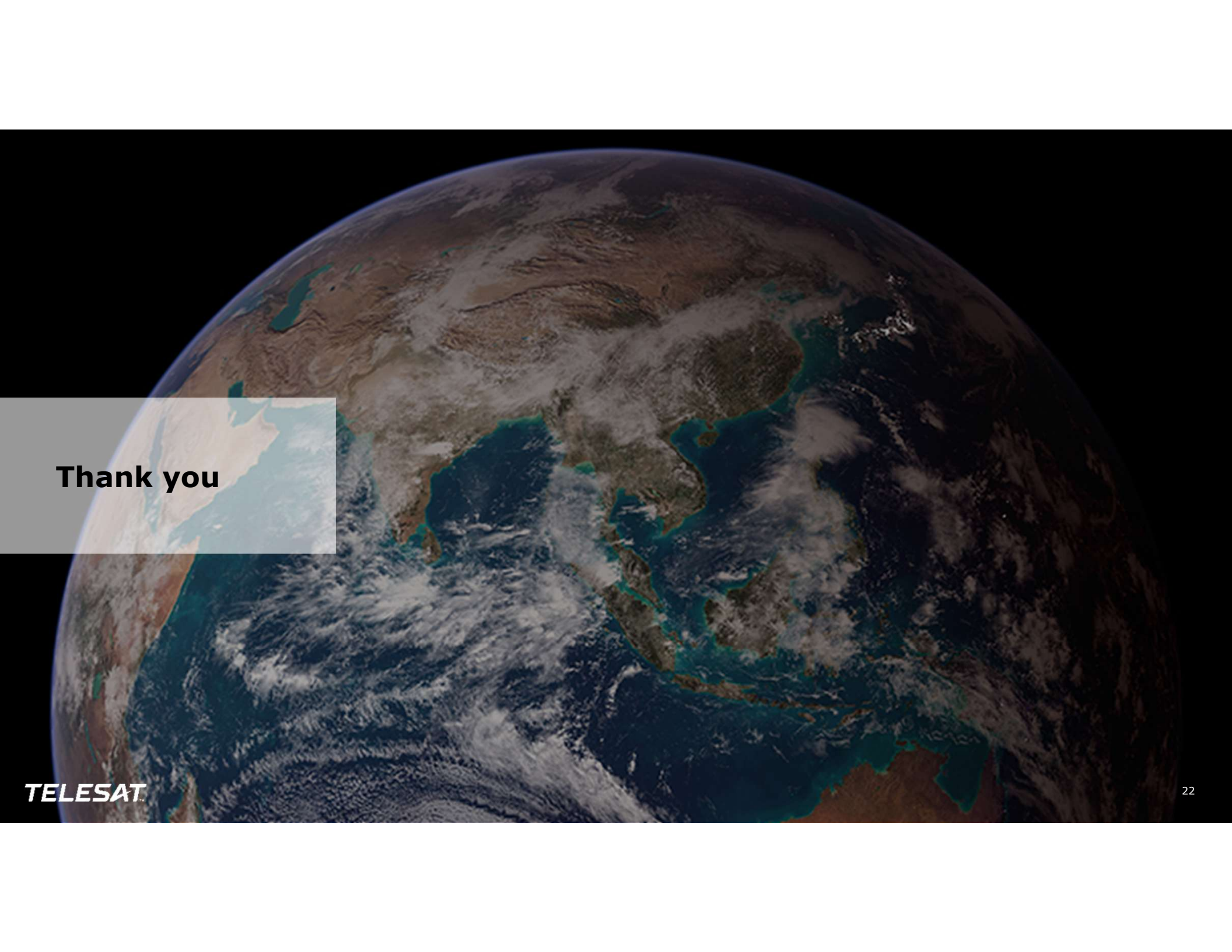


## Constellation and Links



## Mobility Routes



A satellite image of Earth from space, showing the Middle East, Southeast Asia, and the Indian Ocean. The image is taken from a high angle, looking down at the Earth's surface. The landmasses are brown and green, and the oceans are dark blue. There are white clouds scattered across the surface. A semi-transparent grey box is overlaid on the left side of the image, containing the text "Thank you".

**Thank you**

**TELESAT**