

Licensing Arrangement for Provision of Broadband Access Services via Satellites



Telecommunications Regulatory Affairs Advisory Committee
3 February 2026

Agenda

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Streamlining the licensing arrangement for operating low earth orbit satellites

02

Licensing arrangement to enable the provision of broadband access services via satellites

03

Trials of LEO satellite communications networks





Streamlining the Licensing Arrangement for Operating Low Earth Orbit Satellites

The Policy Address



Chief Executive (“CE”) Policy Address (“PA”) Initiatives

2024 PA:

conduct and complete a **study on streamlining the vetting procedures of licence applications for operating Low Earth Orbit (“LEO”) satellites** within 2025

2025 PA:

announce the findings of the study on streamlining the vetting procedures of licence applications for LEO satellites within 2026



Objectives of Streamlined Licensing Regime for LEO Satellites

- attract related businesses, talent and investment to come to Hong Kong
- accelerate the development of commercial aerospace services in Hong Kong
- provide Hong Kong users with more service options for Internet access in conjunction with Hong Kong’s terrestrial networks

Existing Licensing Arrangement for Satellites

- Operators are currently required to obtain **one pair of licences for each satellite**

Outer Space Licence (“OSL”)



Granted by the Chief Executive under the Outer Space Ordinance (Cap. 523)



for launching or procuring the launch of a space object, operating a space object and conducting any activities in outer space



No licence fee is required

Space Station Carrier Licence (“SSCL”)



Granted by the Communications Authority under the Telecommunications Ordinance (Cap. 106)



for the licensee to establish, possess, maintain, use and operate a space station or earth station for telemetry, tracking, control and monitoring of a space object and for space radiocommunications



Fees payable
- HK\$450,000 initial fee
- HK\$150,000 annual renewal

Existing Licensees

- **3** licensees in Hong Kong, operating **10** Geostationary (“GSO”) satellites in total.



Asia Satellite
Telecommunications
Company Limited
("AsiaSat", 亞洲衛星有限公司)
is operating

6 GSO satellites



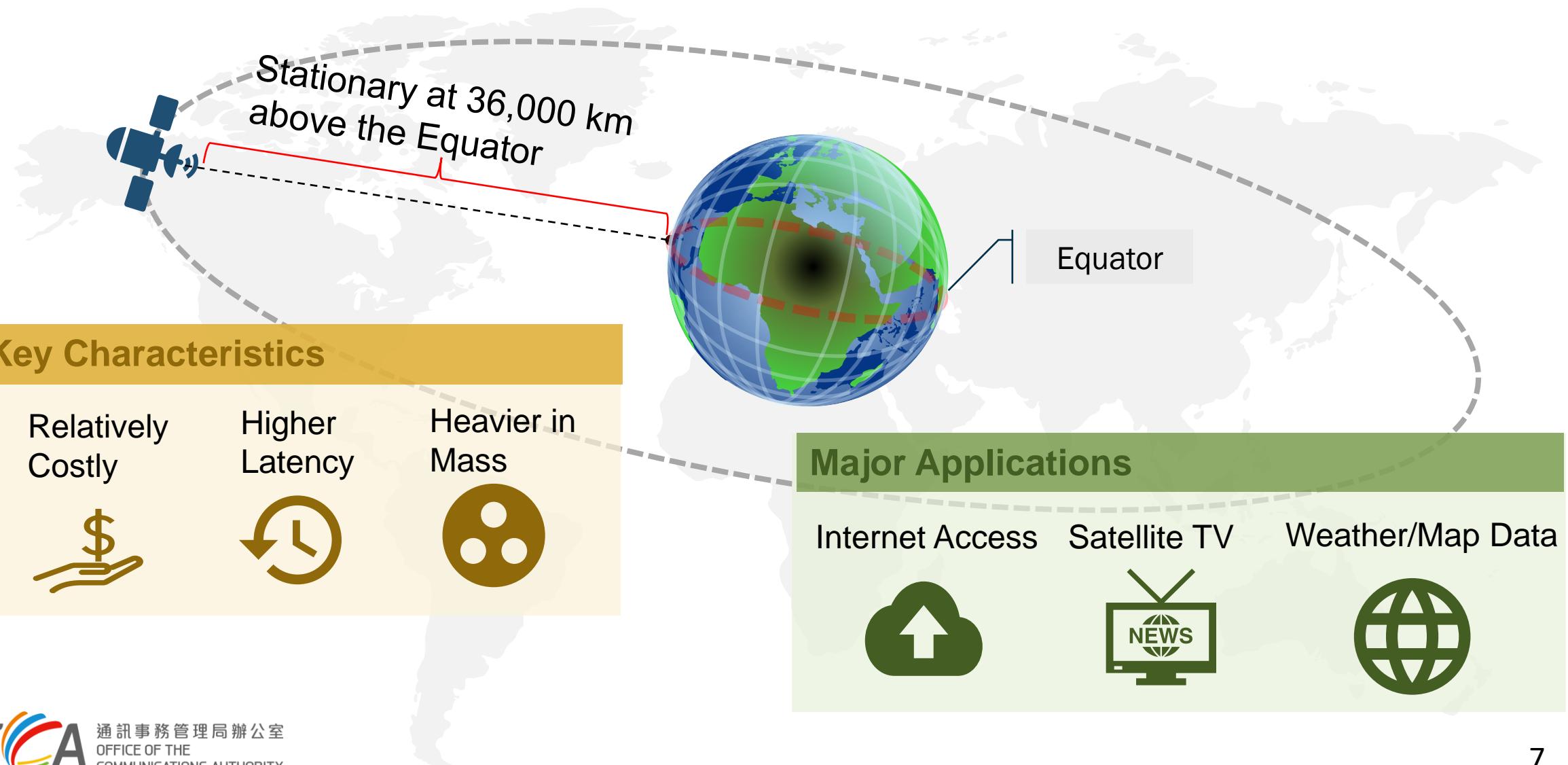
APT Satellite Company
Limited
("APT", 亞太通信衛星有限公司)
is operating

3 GSO satellites

APSTAR Alliance Satcom
Limited
("APAS", 亞太星聯衛星有限公司)
is operating

1 GSO satellite

GSO Satellites



LEO Satellites

- ✓ New global trend
- ✓ Operate in a constellation*, which may consist of tens or hundreds to LEO satellites

**A satellite constellation is a fleet of satellites with orbits in an orbital plane or a few complementary orbital planes and works as a system for the same purpose and under the same control*



Key characteristics



Less Costly



Lower Latency



Higher Data Transmission Rates

Widely applicable to various smart city applications such as

Telecommunications



Satellite Internet Access

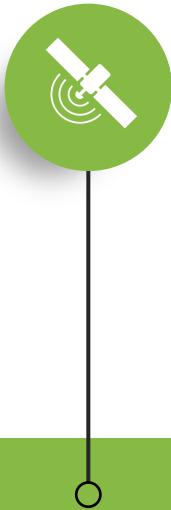
Navigation



Remote Monitoring



Way Forward



2025

Study
Completed

2026

To announce the findings of the study on
streamlining the vetting procedures of licence
applications for LEO satellites within 2026



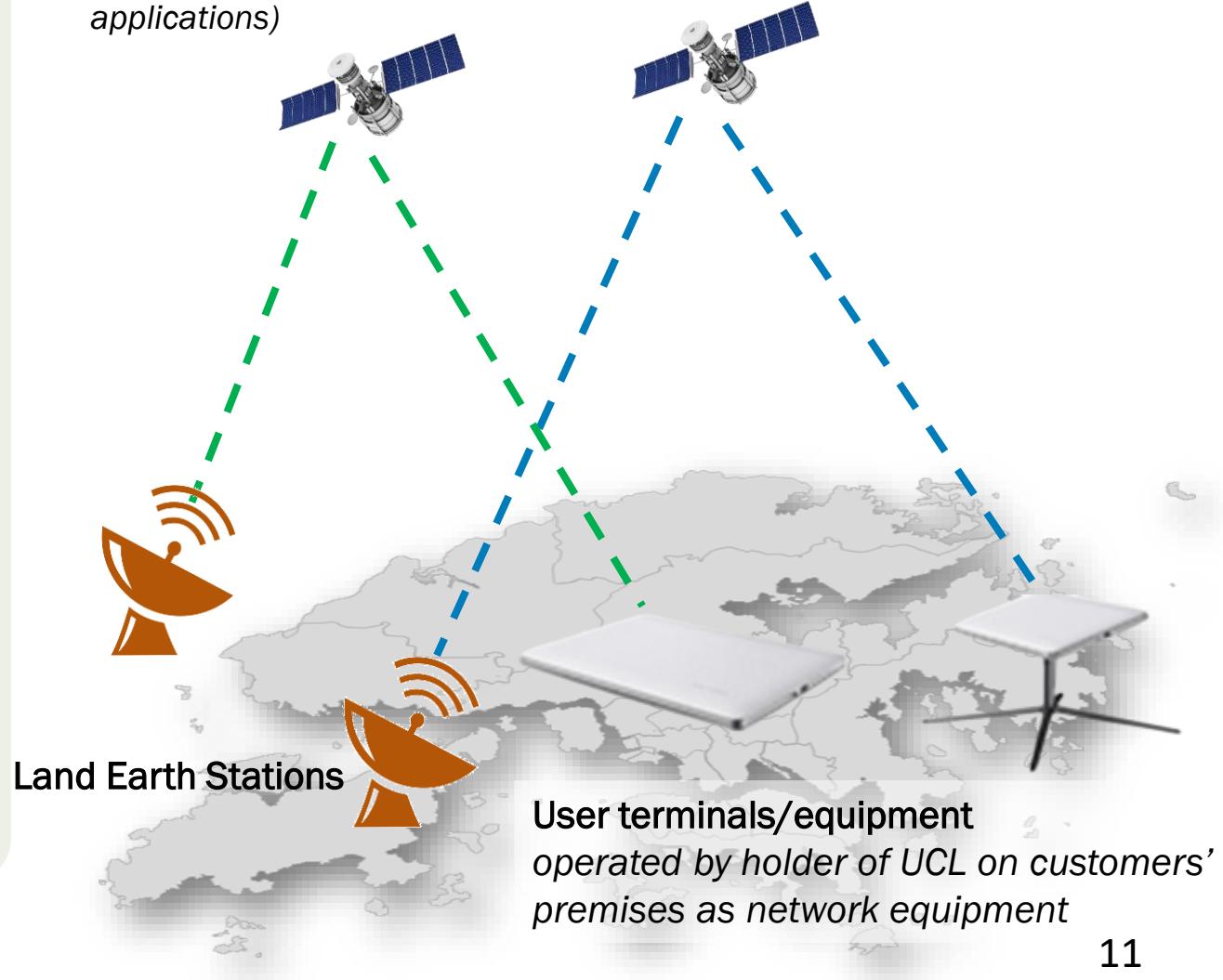
Licensing Arrangement to Enable the Provision of Broadband Access Services via Satellites

Fixed Broadband Wireless Access Services via Satellites

Unified Carrier Licence (UCL)

- Authorises establishment and maintenance of telecommunications networks and facilities in Hong Kong (e.g. land earth stations, user terminals/equipment as network equipment, etc.)
- Requirement on network equipment (including user terminals / equipment): (a) **type-approval**; and (b) **separate application prior to use**
- End users may access to broadband services via wired or Wi-Fi connection to the user terminals / equipment

Geostationary Earth Orbit (GEO) / Low Earth Orbit (LEO) Satellites
(UCL applicants shall specify intended operating frequency bands in their applications)



Mobile Satellite Communications Service (MSCS)

Class Licence for Offer of Telecommunications Services (CLOTS)

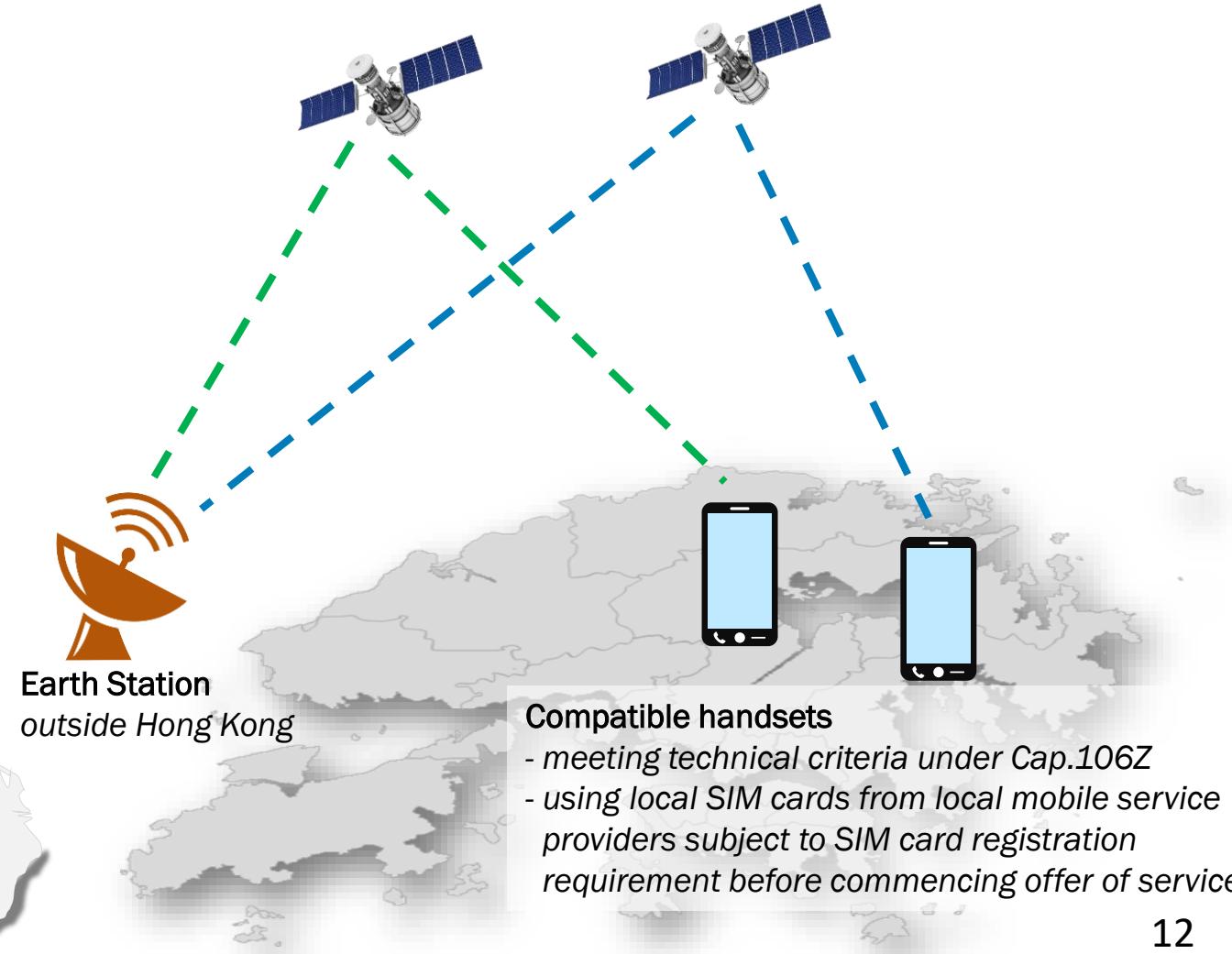
- Authorises offer of a telecommunications service **without** establishment or maintenance of any means of telecommunications
- Any person meeting the specified criteria is automatically deemed as a CLOTS licensee, and registration is required
- **Satellite systems and earth stations** are operated by operators **outside Hong Kong**



MSCS already available

Offered by MNO (as CLOTS licensee) as a **value-added service** on top of its public mobile services

GEO / LEO Satellites
(operating in licence-exempted spectrum under Schedule 1 of Exemption Order (Cap. 106Z))





Trials of LEO Satellite Communications Networks

Trial of LEO Satellite Communications Network – HKT Global

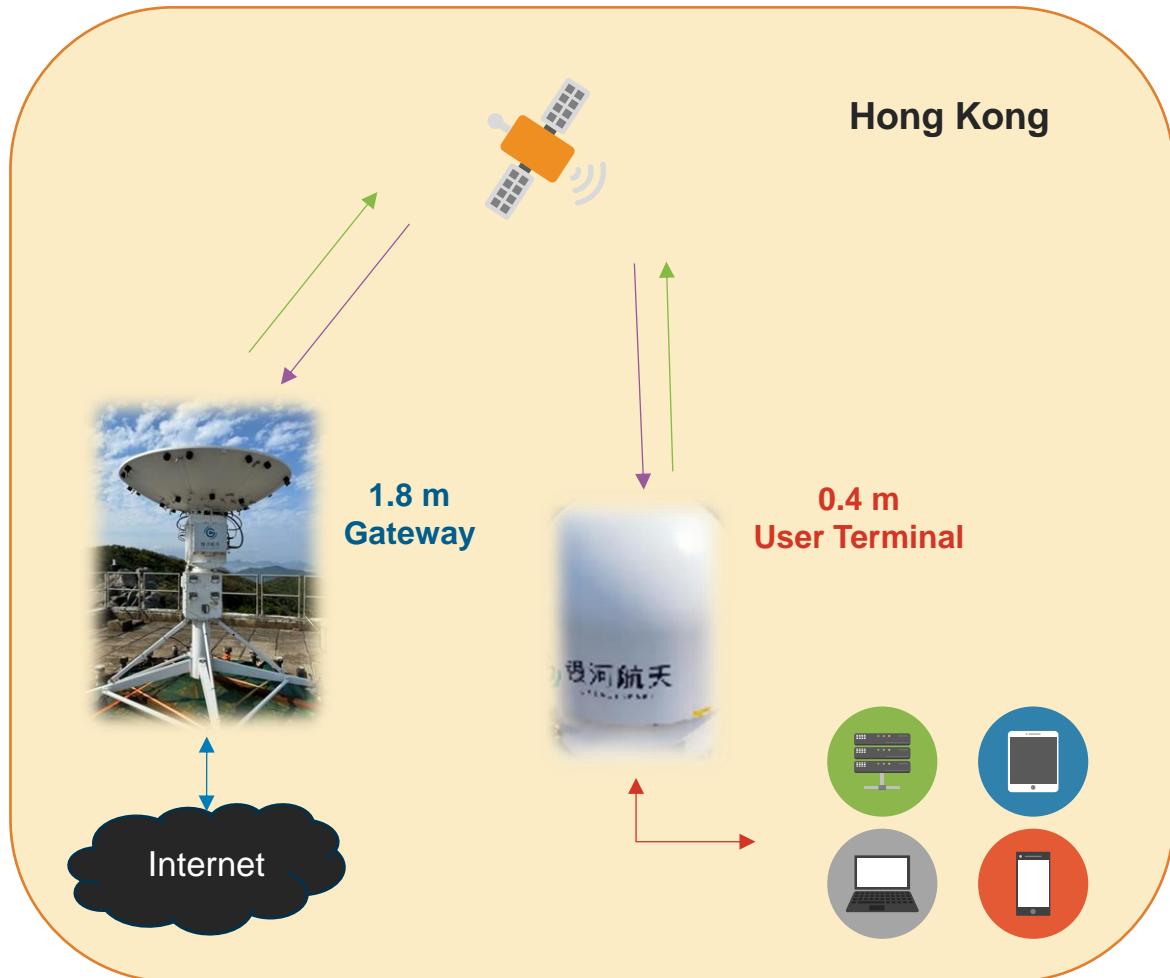
- Permit Grantee: HKT Global Operation (HK) Limited*
- Trial Location: Cape D'Aguilar Satellite Earth Station
- Trial Period: December 2024 to May 2025



Equipment Particulars	Frequency		Maximum Effective Radiated Power
	Transmit:	Receive:	
Gateway Earth Station	48.875 – 49.275 GHz	39.525 – 39.875 GHz	60.0 dBW
User Terminal	28.400 – 28.675 GHz 28.725 – 29.075 GHz	18.825 – 19.225 GHz 19.275 – 19.675 GHz	45.7 dBW

* Partnered with the satellite operator GalaxySpace

Trial of LEO Satellite Communications Network – HKT Global (Cont'd)



Performance Test

	Descriptions	Results
1.	Local Internet Speed Test: (Gateway to Internet)	DL: ~190 Mbps UL: ~190 Mbps
2.	Terminal Internet Speed test: (User terminal to Internet)	DL: ~80 – 190 Mbps UL: ~45 – 85 Mbps
3.	Satellite Link Latency: (Between gateway and user terminal)	~ 25 – 35 ms

Application Test

	Descriptions	Results
1.	WhatsApp voice call	Good
2.	YouTube video streaming	Good
3.	Zoom video call	Good
4.	YouTube live streaming	Good

Trial of LEO Satellite Communications Network – Spacesail

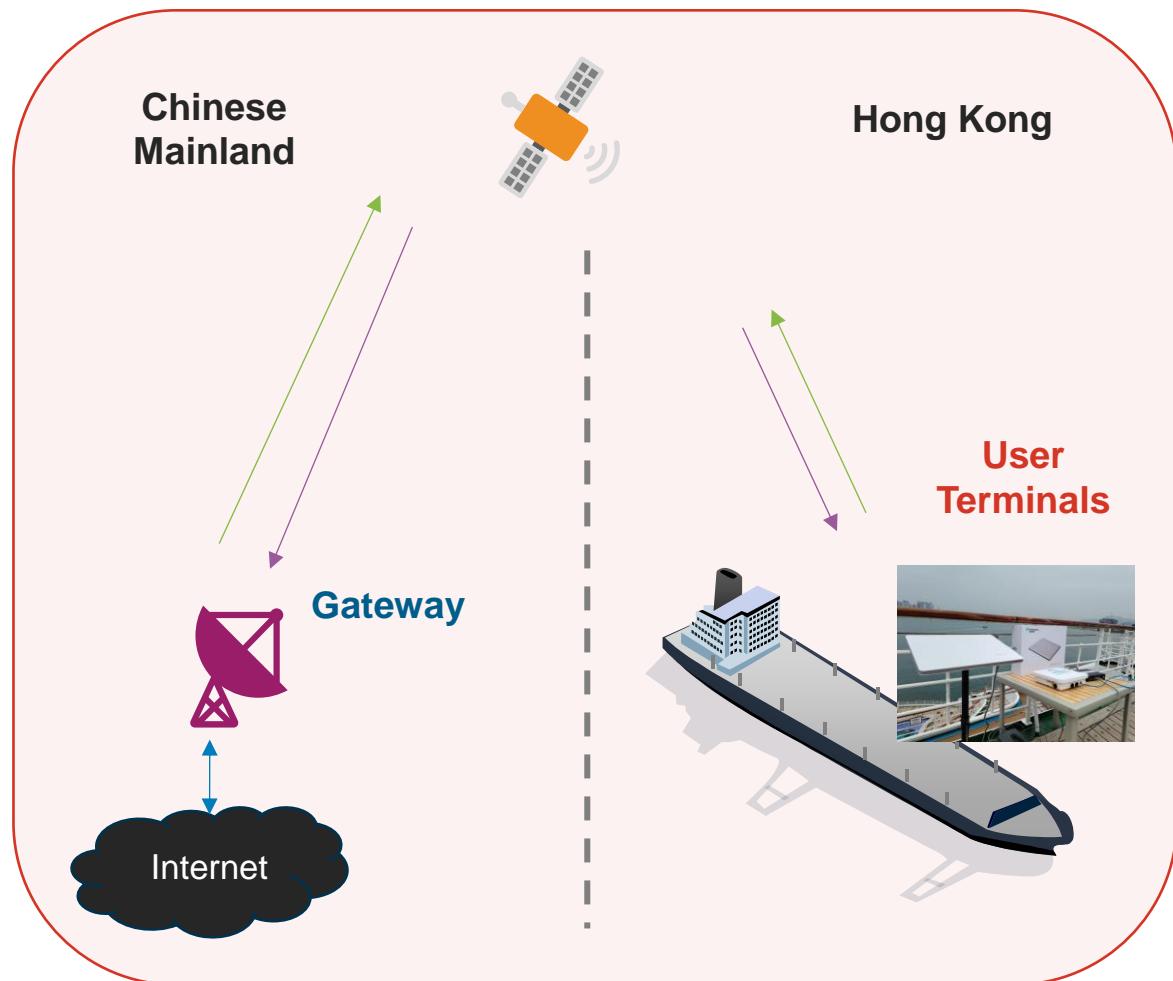
- Permit Grantee: Spacesail International Limited*
- Trial Location: Waters of Hong Kong South
- Trial Period: December 2024 to June 2025



Equipment Particulars	Frequency		Maximum Effective Radiated Power
	Transmit:	Receive:	
User Terminal	10.7 – 12.7 GHz	14.0 – 14.4 GHz	42 dBW

* Partnered with local mobile network operator China Mobile Hong Kong Company Limited

Trial of LEO Satellite Communications Network – Spacesail (Cont'd)



Performance Test

	Descriptions	Results
1.	Terminal Internet Speed test: (User terminal to Internet)	DL: 70~220 Mbps UL: ~30 Mbps
2.	Satellite Link Latency: (Between Internet and user terminal)	~60 – 70 ms

Application Test

	Descriptions	Results
1.	Website browsing	Good
2.	4K video streaming	Good
3.	WeChat video call	Good
4.	Online gaming	Good

Thank You