



Satcom Mobility: In flight & Maritime Communications

Presented by: Daniel Tesfagaber, Chair of

TC-SES

8th International summit of India SatCom 2022, 13-14 December 2022

13/12/2022

Agenda

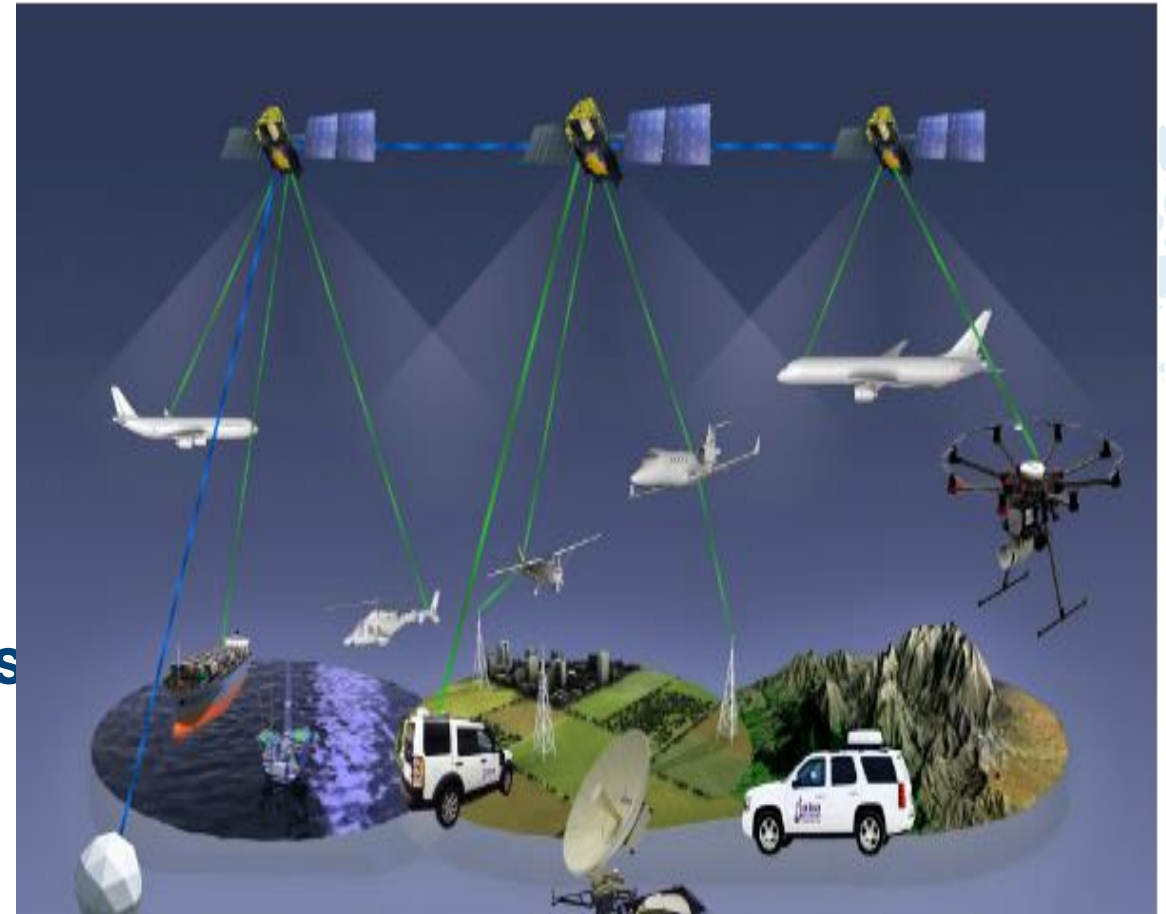


- **SatCom Mobility Services/Markets**
- **Satellite fleet and service coverage**
- **SatCom mobile equipment**
- **ETSI standards for terminals operating over GSO and NGSO satellites in Ka-, Ku-, and C-band**

SatCom Mobility Services/Markets



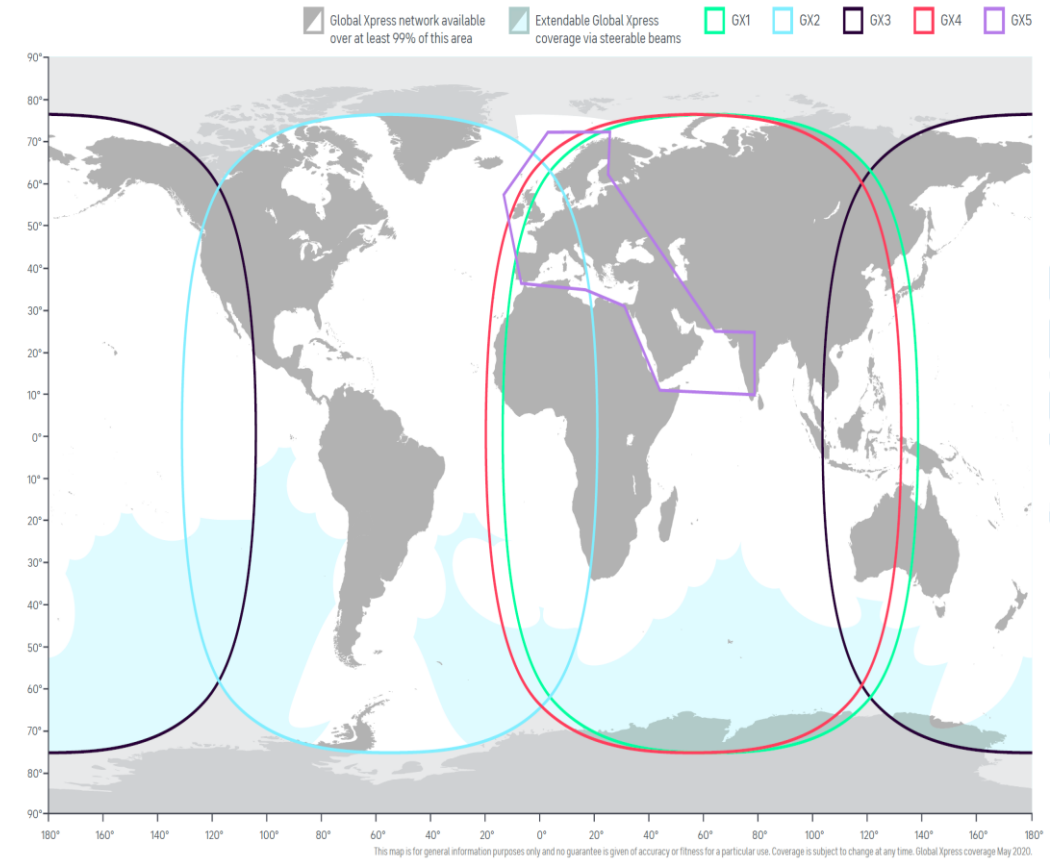
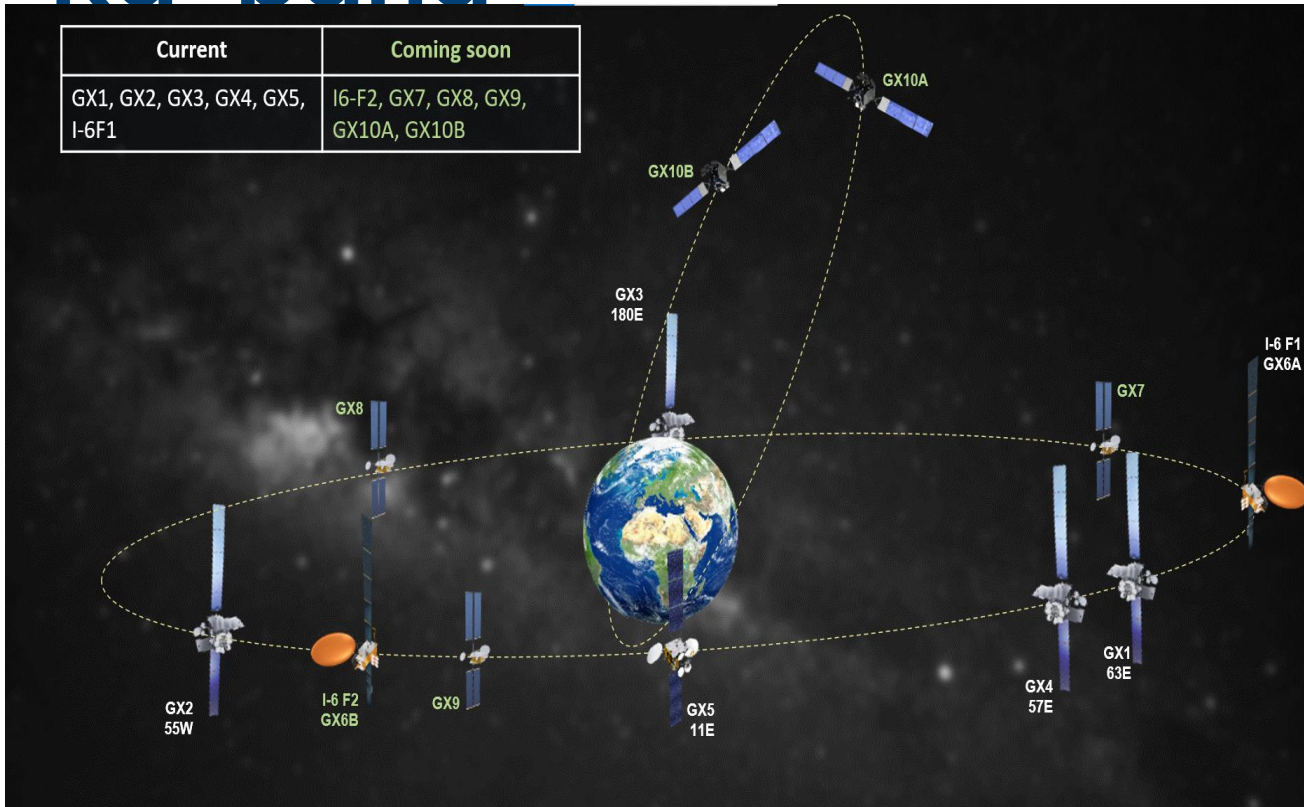
- **Earth Stations In Motion (ESIM): Operate globally and provide critical broadband services to users around the world**
- **Aviation Market**
 - Aviation ESIM (A-ESIM)
 - For airlines and business Jets
 - more than 30 airlines
- **Maritime Market**
 - Maritime ESIM (M-ESIM)
 - For ships, more than 12,000 Vessels
- **Land Mobile Satcom**
 - Land ESIM (L-ESIM)



Satellite fleet and service coverage in Ka-band



Current	Coming soon
GX1, GX2, GX3, GX4, GX5, I-6F1	I-6-F2, GX7, GX8, GX9, GX10A, GX10B



- Inmarsat Ka-band satellite fleet and Ka-band service coverage

SatCom mobile equipment: ESIM



Mechanical Steerable Antennas



Mechanical Steerable Phased Arrays



Electronical Steerable Phased Arrays



ThinKom ThinAir Ka2517



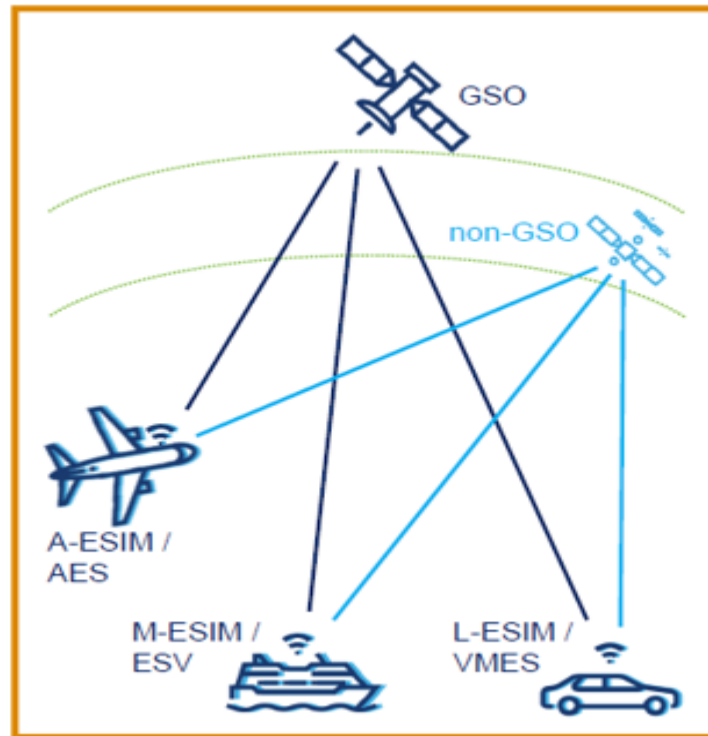
Interoperability with LEO, MEO and GEO Satellites



ALCAN Systems' Flat Panel Antenna

- Aviation Earth stations In Motion (A-ESIM): Electronically steered phased array antennas
- Maritime Earth stations In Motion (M-ESIM): Mechanically steered antennas
- Land Earth stations In Motion (L-ESIM): Mechanically steered phased

ETSI satellite terminal standards



ETSI Standard for ESIM Terminals	Frequency/Satellite/Applicability	ECC Decisions
EN 303 978	Ka-band/GSO/A-, M, L-ESIM	ECC(13)01
EN 303 979	Ka-band/NGSO/A-, M-, L-ESIM	ECC(15)04
EN 302 186	Ku-band/GSO/A-ESIM	ECC(05)11
EN 302 340	Ku-band/GSO/ESV	ECC(05)10
EN 302 448/977	Ku-band/GSO/L-ESIMS	ECC(18)04
EN 303 980/981	Ku-band/NGSO/A-, M-, L-ESIM	ECC(17)04/ECC(18)05
EN 301 447	C-band/GSO/ESV	ECC(05)09

Summary



- **ETSI is a world leader in standards development reflective of the relevant CEPT regulatory framework and compliance with ETSI standard requirements ensures ESIMs operation without any interference**
- **ESIMs are operating and providing critical broadband services to users around the world without any interference complaints**
- **Cooperation to facilitate the creation of harmonised standards and regulatory framework globally is essential to ensure to meet the growing demand for aeronautical and maritime ESIMs**

Any further questions?

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