Satellitt-tjenester
– mulighet eller trussel?

Mobilkommunikasjon via satellitt byr på en kompletterende teknologi som matcher bakkebasert mobilteknologi:

- Hvem er aktørene og hva betyr det for utviklingen av telekommarkedet?
- Hva betyr dette for kundene og hvordan kommer dette bildet til å se ut i fremtiden?

Andreas Løyning

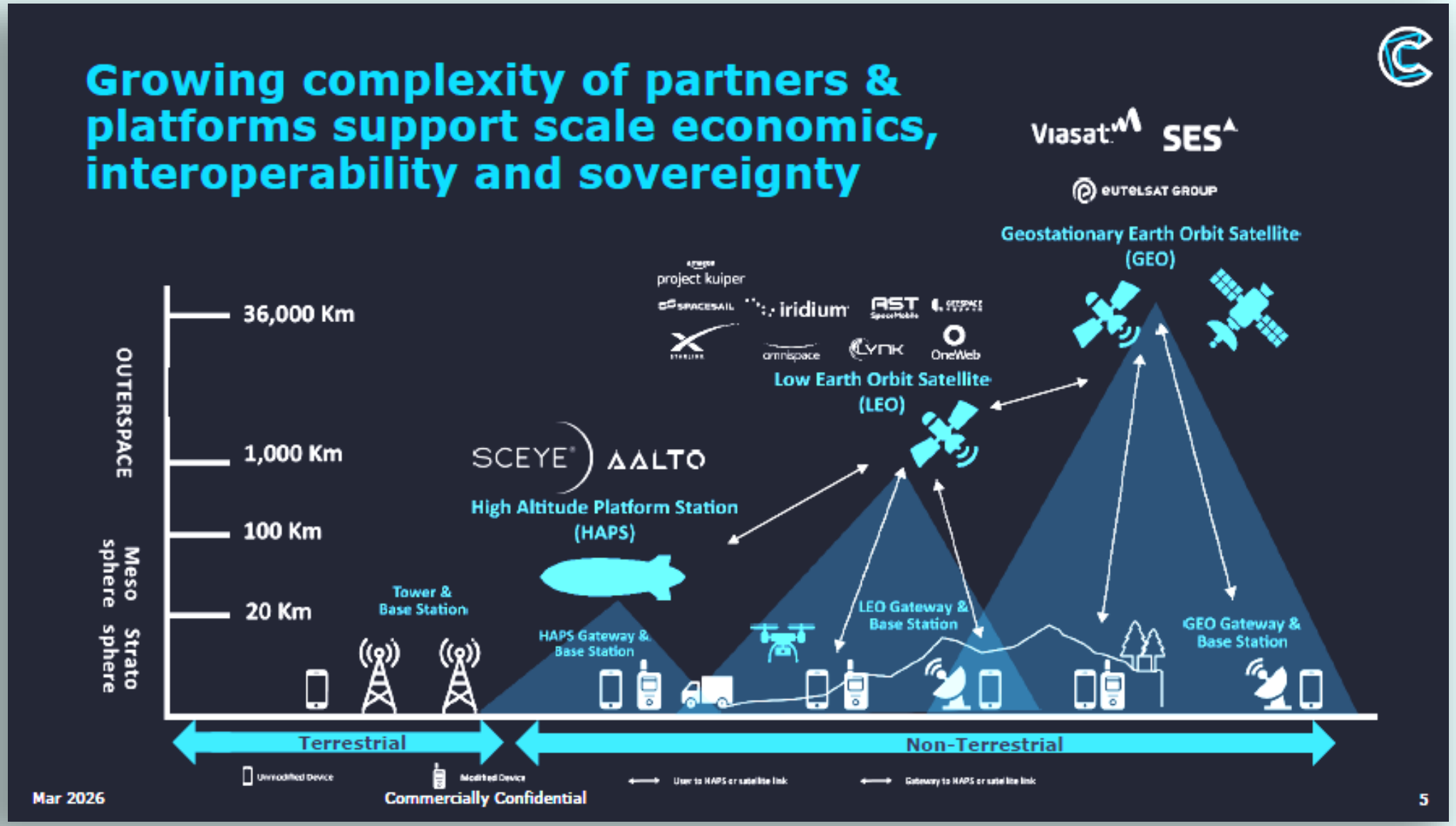
VP Technology Advisory

Telenor ASA

telenor

Source: Eutelsat

Growing complexity of partners & platforms support scale economics, interoperability and sovereignty



Mar 2026

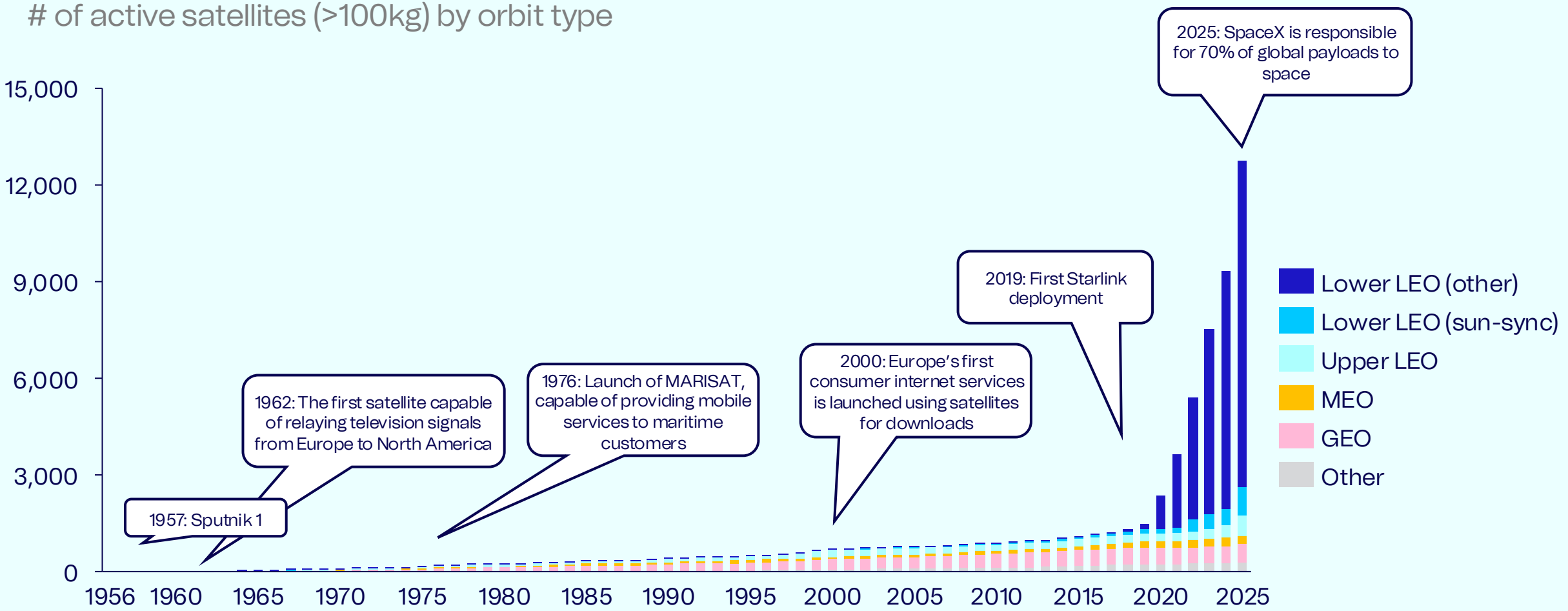
Commercially Confidential

5

Sources: Capgemini – note that OneWeb is a part of Eutelsat Group and that Project Kuiper is rebranded Amazon Leo

Satellite communications is nothing new, but we are entering the era of LEOs

of active satellites (>100kg) by orbit type



Sources: Jonathan's Space Report (Jonathan's Space Report | Space Statistics); The Aerospace Corporation; National Aeronautics and Space Administration; Eutelsat

Factors to be considered

- Broadband Access where fiber or FWA is not available
- Mobile bakchaul for extended coverage
- Backhaul resilience – alternative backhaul when ground connection fails
- IOT – global reach
- Direct to device – geographical coverage
- Limited Capacity in populated areas
- Poor Indoor coverage
- High Latency
- Security and autonomy factors
- Regulatory requirements

Satellite operators Starlink and Amazon Leo are under umbrella of global giants SpaceX and Amazon

Selected MNOs					Selected sat. ops.		
Deutsche Telekom	中国移动 China Mobile	verizon	AT&T	telenor	SPACEX STARLINK	amazon amazon LEO	AST SpaceMobile
Presence across Europe and in the US (through T-mobile US)	China, Hong Kong and Pakistan	US	US and Mexico	Nordics, Bangladesh and Malaysia	Starlink with global offerings (155 countries)	Amazon with global presence, but LEO not yet operational	Global presence

Sources: Reuters; CNBC; YahooFinance; CompaniesMarketCap

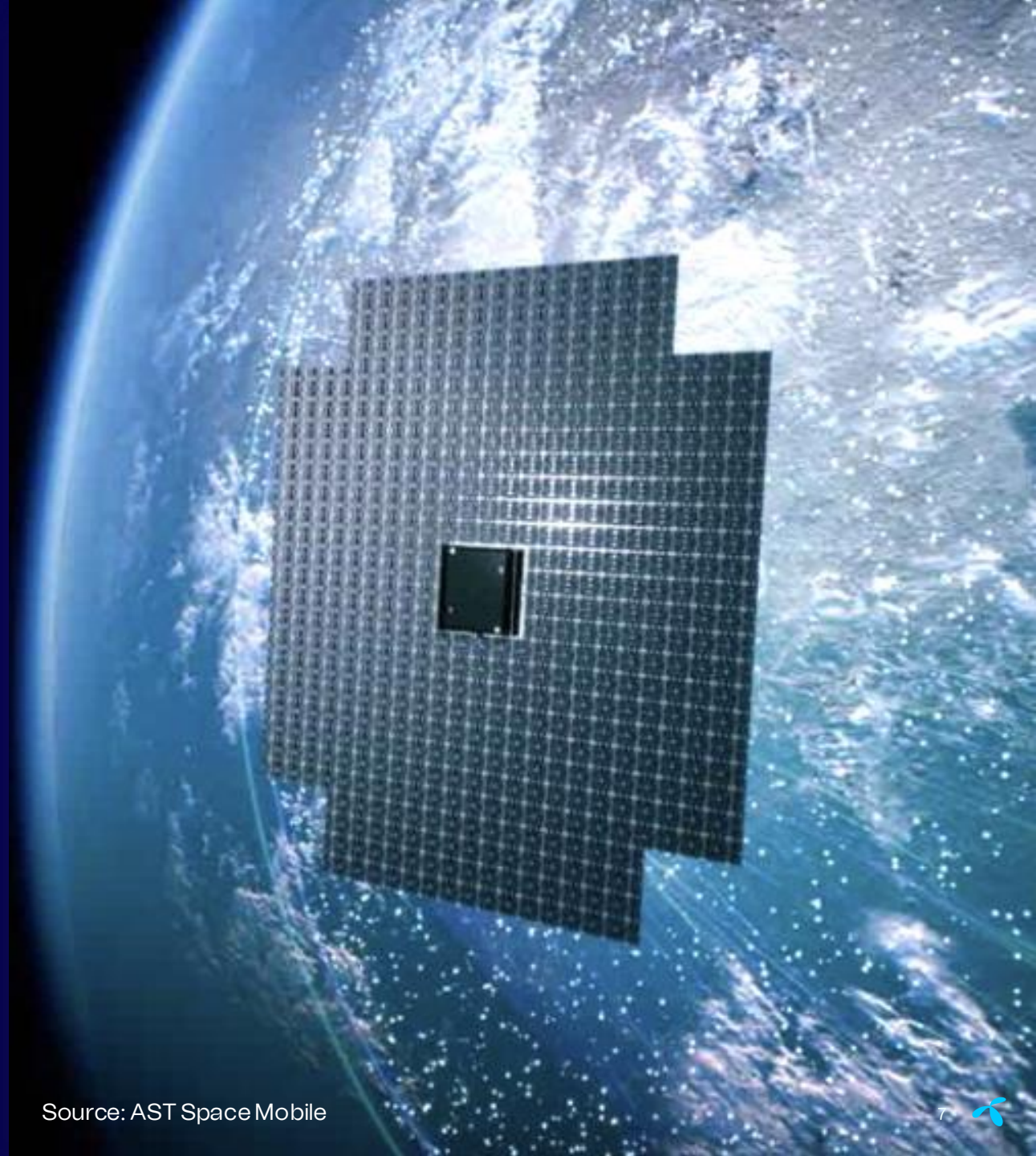
SpaceX has global ambitions

- Ambition to develop Starlink into a global full-service communication provider
- Strong position on launch capacity making other players dependent on SpaceX to launch satellites
- Currently serving 10 million broadband customers through 9000 LEOs
- Acquired MSS spectrum for 17 USDbn to boost D2D offering
- Currently live with D2D offerings using mobile spectrum and "base station in space" in ~650 LEOs
- Announced new D2D constellation of 1200 V2 satellite. MSS spectrum only from 2027, also covering Nordic

Source: The All-In summit 10 September 2025, https://www.youtube.com/watch?v=qeZqZBRA-6Q&t=1015s

AST SpaceMobile/SatCo – Partnership approach

- LEO constellation to complement MNOs on D2D only, currently live in USA with Verizon and AT&T
- Currently 6 satellites – more advanced than those of Starlink
- Target to have 45-60 LEOs in 2026 also covering Nordics in 2028
- Satellite Connect Europe (SatCo) Joint venture between Vodafone and AST using AST satellites
- Focus on European control and sovereignty with ground stations in Europe
- SatCo announced collaborations with several European telcos



Source: AST Space Mobile

Eutelsat – European, with broadband from pole to pole

- European, headquarter in France, with both French (29.65%) and UK (10.89%) state owners
- 33 GEO satellites and more than 600 LEO satellite
- Focus on broadband services to state, defence, large enterprise and broadcasting
- Testing D2D with LEO fleet, not yet commercial
- Part of EU's IRIS^2 initiative, a "sovereign" multi-orbit constellation for secure D2D services
- Satellites in polar orbit and also using ground station at Svalbard

2026: Status today

Technological developments

- Satellite BB offerings are mature; global broadband access available. Satellite backhaul is applied
- D2D in early stages with a variety of partnership types mainly using IMT spectrum

Political and regulatory developments

- Satellite connectivity seen as critical digital infrastructure, linked to national security, supply-chain resilience, strategic autonomy and crisis preparedness
- EU preference for trusted European-governed satellite infrastructure

Market dynamics

- Evolving partnership models between satellite providers and telcos
- Telcos are also taking financial positions in satellite operators
- Satellite operators are exploring **both direct-to-consumer and partnerships for broadband** distribution. **D2D** is only available **through partners**

Customer expectations

- BB mostly relevant for rural areas and for resilience in B2B
- D2D connectivity not yet available north of 60 degrees, with limited customer awareness.
- Service quality of e.g. in-flight broadband increasing

What to expect towards 2030-2035

Technological developments

- Satellites included in 6G standards
- Unified standards
- Hybrid devices

Political and regulatory developments

- Satellite connectivity important for security & resilience
- Increase focus on European sovereignty
- Operational European LEO constellation(s)

Market dynamics

- New competitors and consolidations
- Vertically integrated players as well as partnerships
- More integrated Terrestrial and satellite networks

Customer expectations

- Network-agnostic
- Always-available & resilient connectivity – everywhere, across devices

Political and regulatory developments

Satellite is seen as a part of **critical infrastructure with political attention on sovereignty, security and resilience**; European solutions could be favoured

Some Mobile-Satellite Service spectrum licenses will expire in May 2027 and reallocated

- Beauty contest, auction or hybrid?
- Design favouring European operators?
- Would IMT bands allocated for terrestrial be opened for D2D?

When D2D traffic is partly carried through non-EU satellite constellations compliance issues become challenging

- Lawful intercept, data retention obligations

Essentials

- This is **not a competition between technologies** – Satellites and Terrestrial networks complement each other
- The introduction of satellite services will provide **extended coverage, added resilience and security**
- Powerful new players **will change the telecom industry**
- The **EU political and regulatory developments** will form the future market landscape

Thanks.