



ETSI/IQC Quantum Safe Cryptography
Conference 2026

Implication of PQC in Non-Terrestrial Networks

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vodafone

GSMA™

18/06/2026

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Post Quantum Telco Networks Taskforce (PQTN TF)



**70+
members**

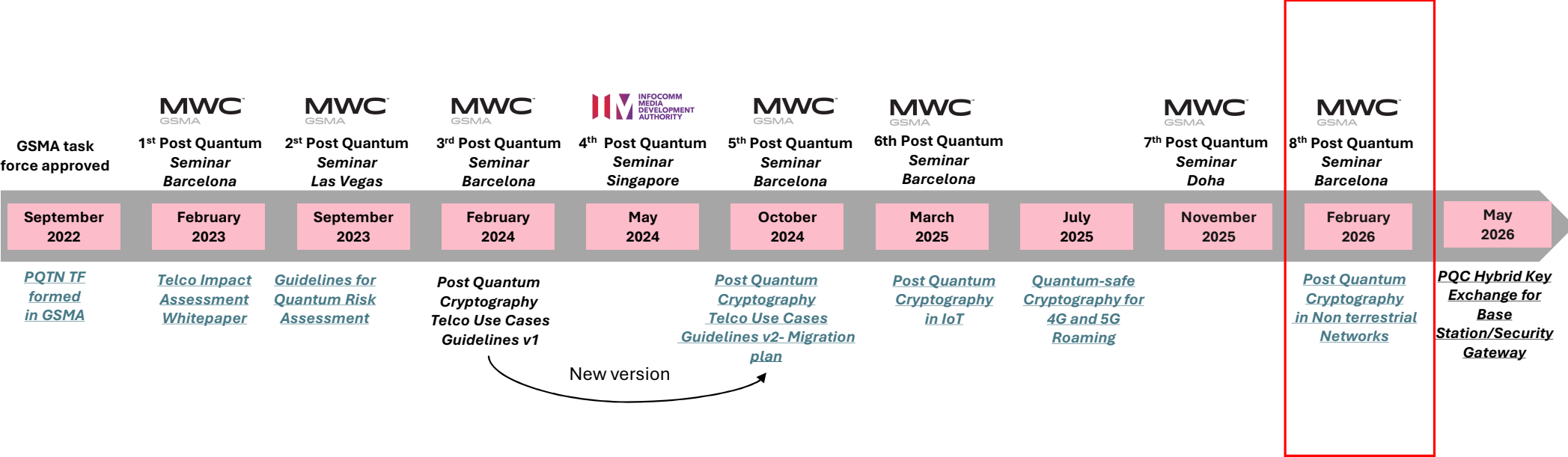
*Network Operators/Communication Service Providers
Technology providers
Regulators and Government*

**Collaboration and
Communication**

Work Items and Deliverables

**Knowledge and Experience
Sharing**

PQTN TF Publications



All documents are publicly available at: [Post-Quantum programme - GSMA](#)



NTN opportunities are emerging in 4 main areas. Mostly LEO based.

Direct to Device (D2D)



Mobile Backhaul



Fixed Broadband

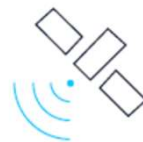


Enterprise/IoT



LEO
600 to 1500km

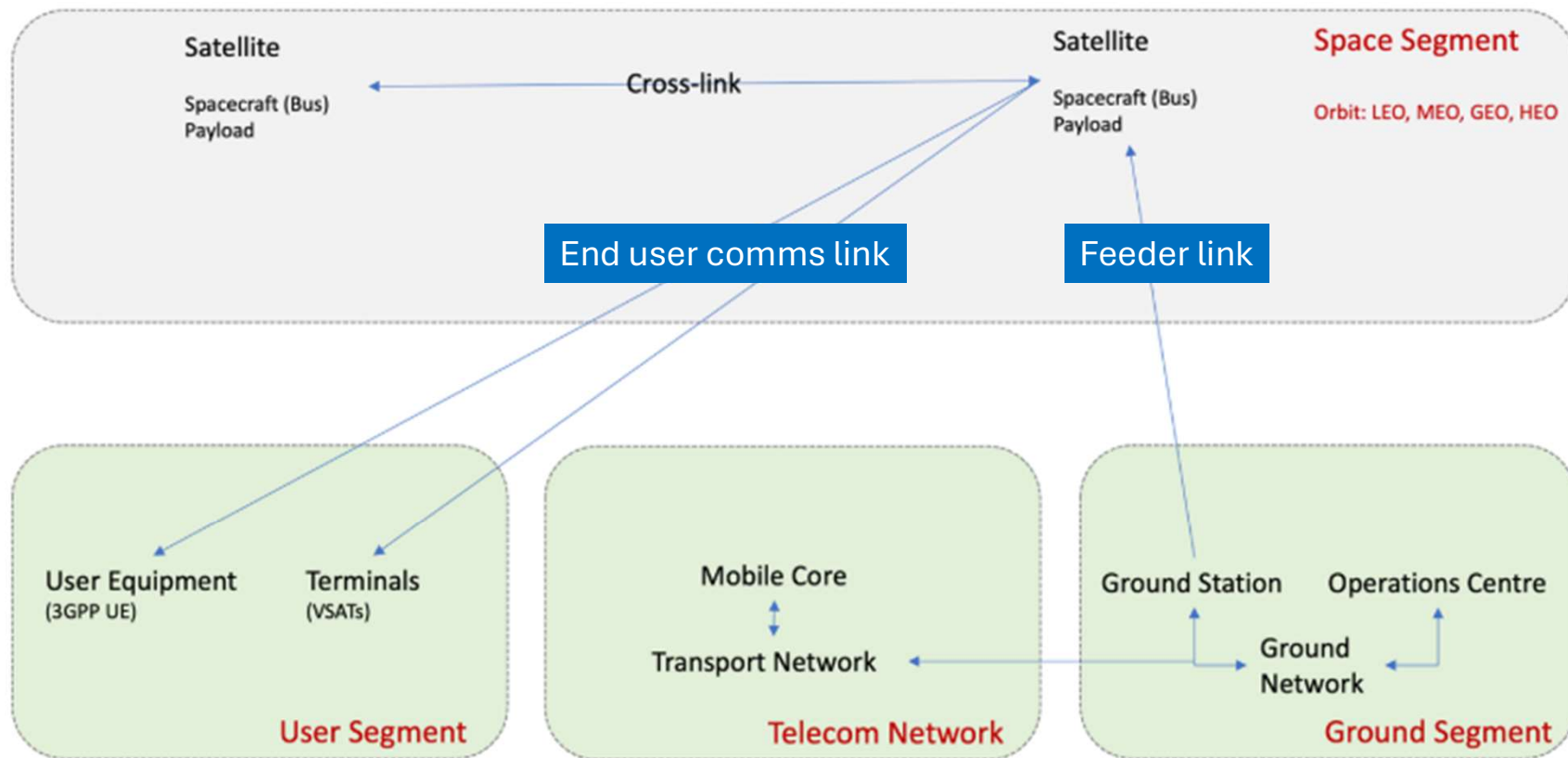
- Global footprint
- Highest system capacity
- Lower Latency vs GEO



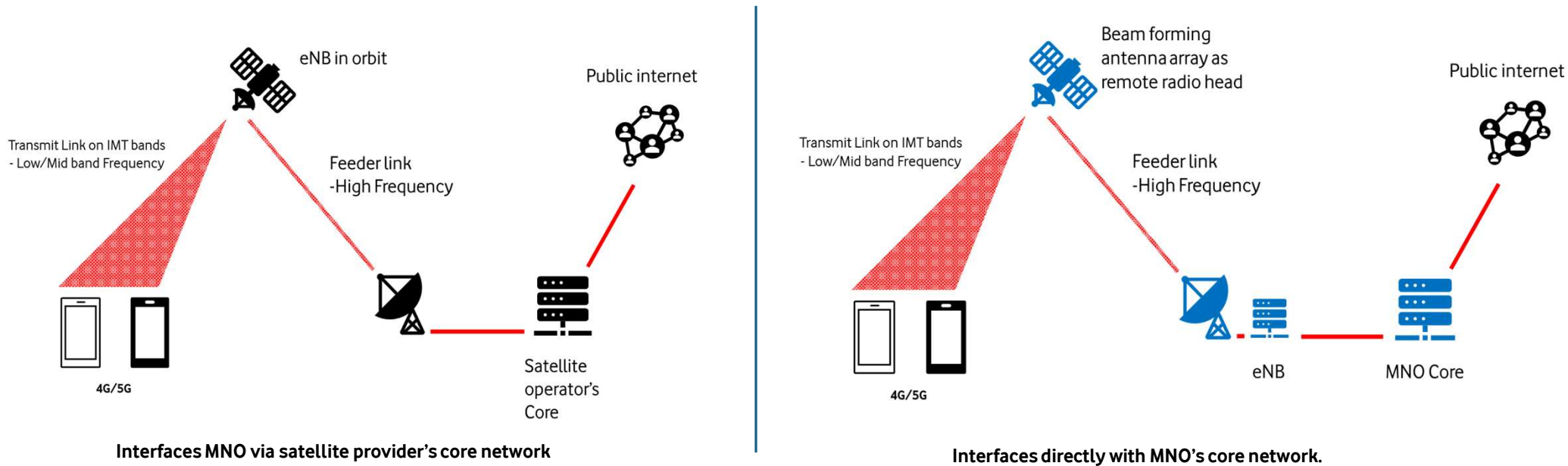
Smaller Satellites / Large constellations
Larger Satellites / Smaller constellation
Proliferation of Earth Gateways
Integration with terrestrial networks varies



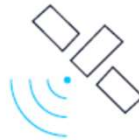
Additional segments introduce additional security considerations



Alternative NTN architectures also drives different considerations



- D2D will appear as a roaming partner
- Privacy and Security not under direct MNO control



- Operates as extension of terrestrial network
- Architecture, privacy and security are fully under MNO control



... placing new PQC requirements on NTN suppliers to telco

Post Quantum Cryptography for Non-Terrestrial Networks Version 1.0

Securing Non-Terrestrial Networks for the Quantum Era

- Implications of PQC implementation in NTN
- Assessment of cryptographic controls (IPsec, TLS, AES) and risk exposure across alternative NTN architectures
- PQC performance considerations and constraints for NTN architecture, including impact of increased latency
- Migration strategy analysis and dependencies



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Join Us!

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