Integrated Access & Backhaul

A 5G NR Phase 2 study item

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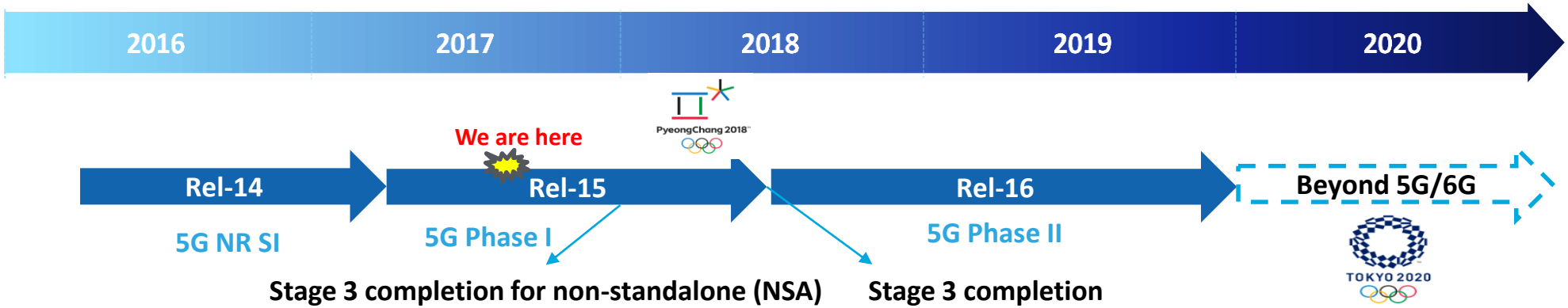
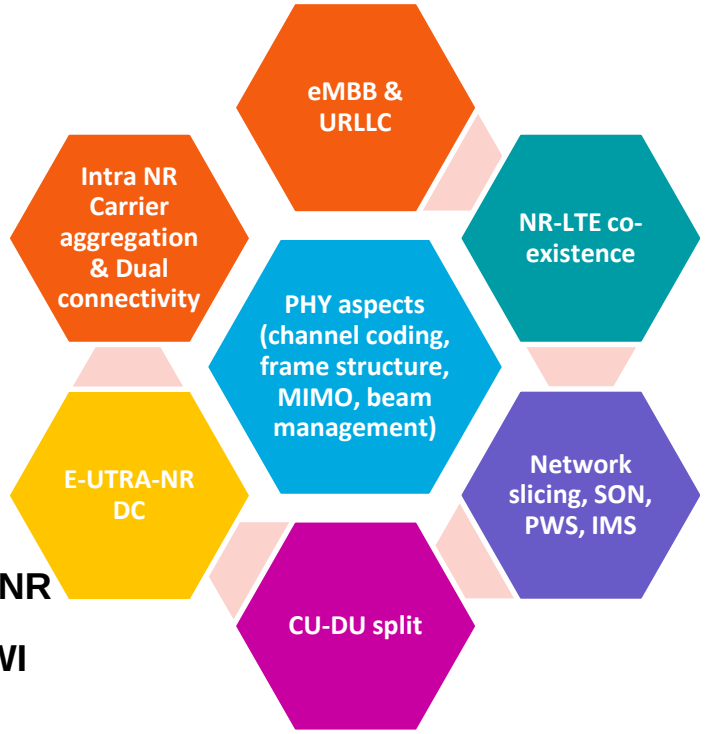
3GPP 5G (NR) standards

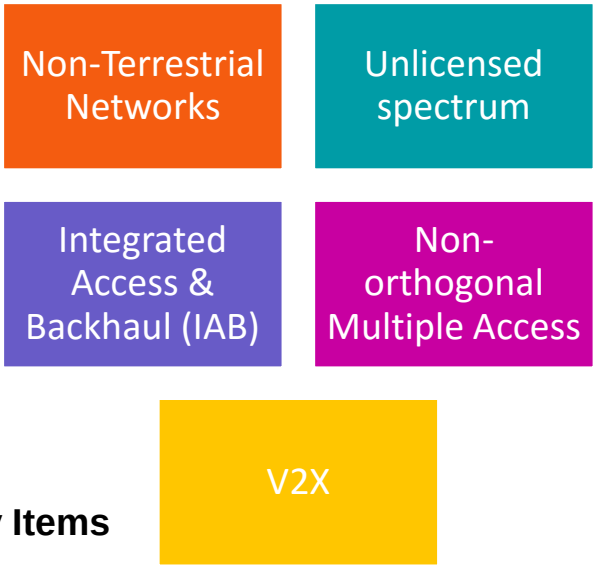


Stage 3 completion for non-standalone (NSA) (L1/L2 for both NSA and SA completed)

Stage 3 completion for standalone (SA)



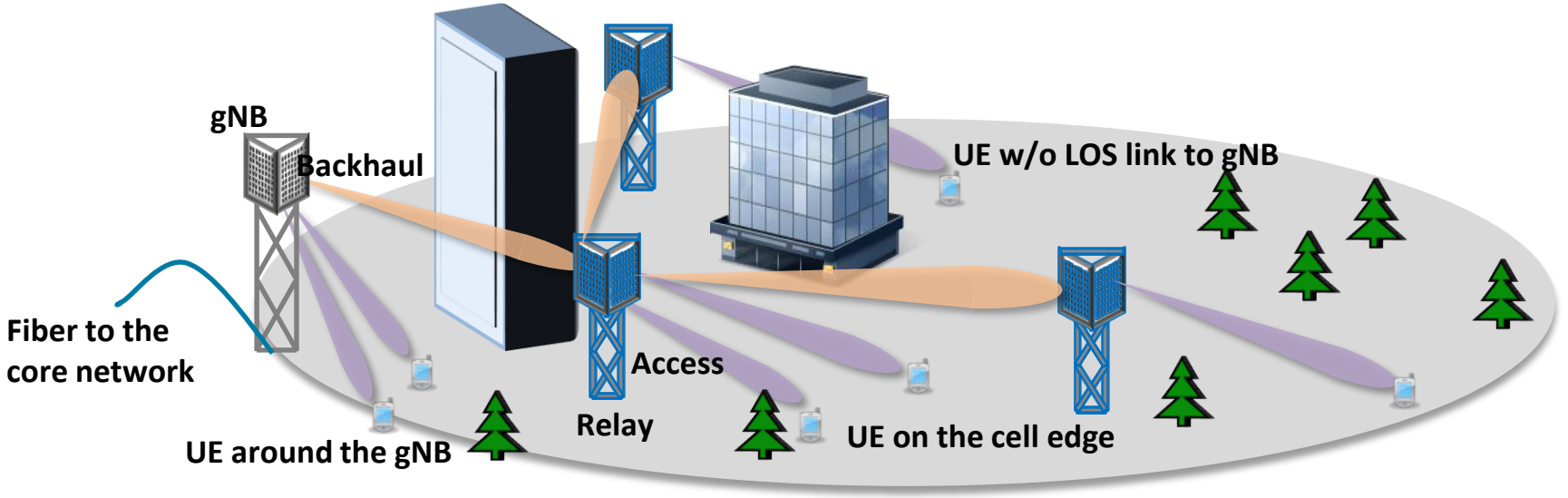
Scope of NR Phase 1 WI



New NR Study Items (earliest start in Q4 17)

NR Phase 2: Integrated Access and Backhaul (IAB)

- Wireless backhaul reduces cost of deploying NR mmWave network
- Beamforming at backhaul and access significantly mitigates cross-link interference
- Study item period: Nov 2017 – Jun 2018 (Qualcomm & Samsung are co-rapporteurs)
  - Efficient and flexible operation for both inband and outband relaying in indoor and outdoor scenarios
  - Multi-hop and redundant connectivity
  - End-to-end route selection and optimization
  - Support of backhaul links with high spectral efficiency
  - Support of legacy NR UEs



Integrated Access and Backhaul (IAB)

Topology management

- Protocol stack and network architecture design
- Control and User plane procedures for supporting traffic forwarding

Route optimization

- Discovery and management of backhaul links for TRPs with IAB functionalities
- RAN-based dynamic route selection (to overcome short-term signal blockage and latency requirements)

Dynamic resource allocation between backhaul and access

- Efficient multiplexing of access and backhaul links in time, frequency and space under per-link half-duplex constraint
- Cross-link interference measurement, coordination and mitigation between relays and UEs

High spectral efficiency and reliable backhaul

- Identification of physical layer solutions/enhancements to support wireless backhaul links with high spectral efficiency

Thank you