

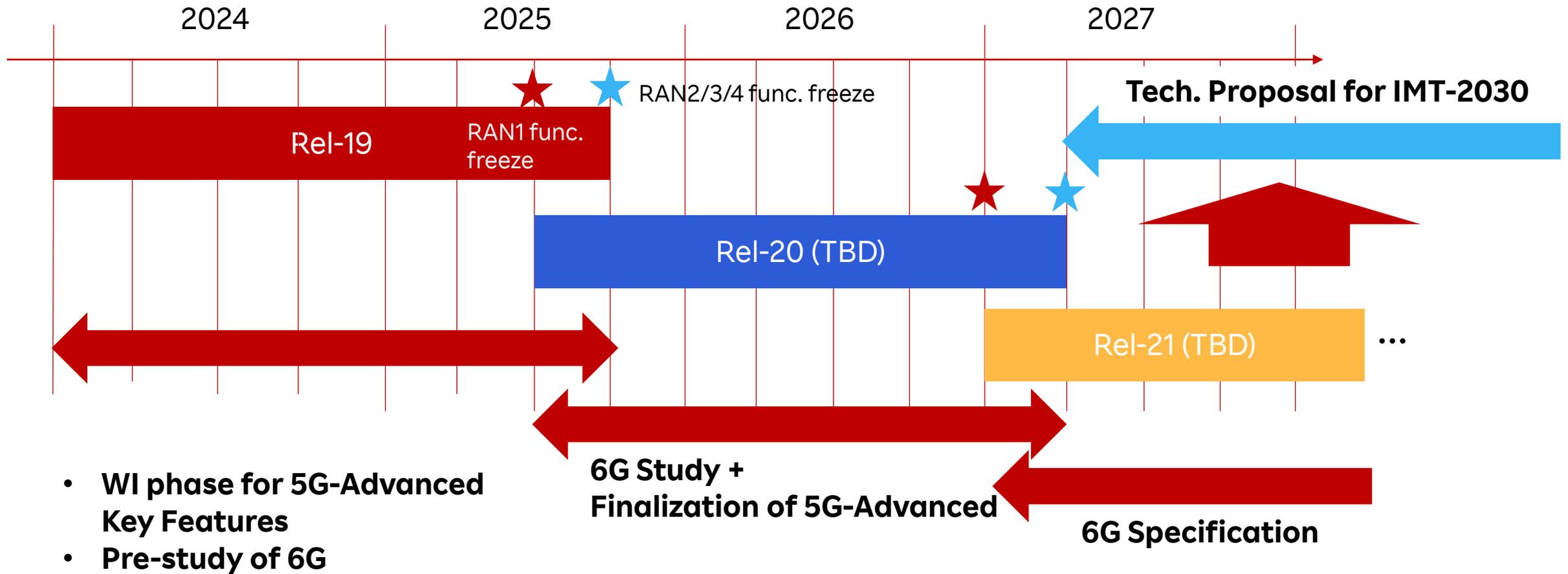
General view on Rel-19 handling

Rakuten Mobile, Inc.

3GPP RAN Rel-19 Workshop

View on Timeline and Scope of Rel-19

Timeline from functional freeze perspective.



Proposal:

- Rel-19 should focus on standardization of key 5G-Advanced features.
- Rel-19 can initiate pre-study phase of essential technologies/use cases/frequencies for 6G.

Opinion on Rel-19 expected outcomes.

■ Priority consideration

- Rel-19 is [a key release for 5G-Advanced](#), which include new features, that provides more efficient network & UE management.
⇒ Rel-19 should prioritize features which are required by actual markets as 5G-Advanced.

■ Consideration of activity toward 6G

- Considering IMT-2030 proposal timeline, [Rel-20 should consolidate essential technologies for 6G.](#)
⇒
It is beneficial that Rel-19 has initial study for 6G technologies, that makes discussions in Rel-20 efficient.
 - E.g., Channel model studies of new frequencies, deployments for 6G
- 6G Workshop
To make study topics of Rel-20 clear, it is beneficial to have a WS dedicated to 6G before Rel-20 topics discussion starts.

Summary of preference on topics

5G Advanced Features (i.e., WI)

- Enhanced network efficiency
 - Enhancement on Network Energy Saving
 - Work Item for AI/ML for air interface
- Enhanced coverage and capacity
 - Work Item for Duplex Evolution
 - Inter-DU CA operations
 - NTN enhancements: MIMO enh., IMT bands utilization as MSS bands, etc
- Enhanced frequency utilization
 - Enhancements on NR less than 5MHz

Study for 6G

- Further expansion of AI/ML use cases
- Channel model study for Sensing, RIS, frequency up to 300 GHz
- 6G RAN Architecture Requirements

Brief views on interesting topics (1/2)

5G Advanced Features

- **Network Energy Savings Enhancement WI (RWS-230334)**
 - Focus on Promising Techniques explored in TR38.864 left over from Rel-18 WI.
 - Multi-Carrier Enhancements Including SSB/SIB-1 Less Scells.
 - On-Demand and Adaptive SSB/RS transmissions.
 - Enhanced Cell Re-selection criteria to de-prioritize camping on potential NES Cells.
 - Explore Power Domain and Frequency Domain NES Techniques.
- **AI/ML WI+SI (RWS-230331)**
 - Work scope should be organized so that duplicated discussion can be avoided.
 - Controllability from network over AI/ML LCM should be assured. Thus, this aspects should be captured explicitly in the WID.
 - New use case study for 6G can be included under assumption of the efficient WI scoping.
 - Mobility enhancements

Brief views on interesting topics (2/2)

5G Advanced Features

- **NTN enhancements (RWS-230399)**
 - NTN Support for UE's without GNSS Capability or Location acquisition..
 - Interference Co-Ordination enhancements for NTN to NTN and NTN To TN Case for frequency Sharing.
 - Support of Multi-connectivity for NTN (MR-DC,ENDC,CA for on-board gNB-DU)
 - Study MIMO Feasibility for NTN (Inter Sattelite for on-Board gNB-DU)
- **NR less than 5MHz enhancements WI (RWS-230332)**
 - Additional inclusion of CA and RedCap in 3MHz BW

Study of 6G

- **Channel model study for Sensing, RIS, frequency up to 300 GHz**
 - Chanel models for Sensing and RIS scenarios should be studied jointly to avoid duplicated discussion
 - Priority of the target frequencies may be selected, based on applicability to the assumed use cases.
- **6G RAN Architecture Requirements**
 - Before the start of the study in Rel-20, it is beneficial to have high-layer principle/requirements discussion at the Plenary level in later phase of Rel-19.

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