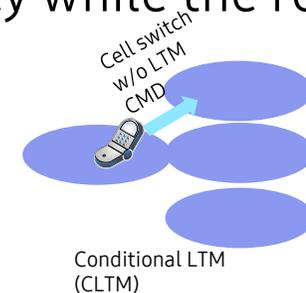


# Mobility Enhancements in Rel-19

# Background and Motivation (1/2)

**LTM<sup>†</sup> defined in Rel-18 WI: NR mobility enhancements can be expanded to more scenarios and improved considering operation on high frequency.**

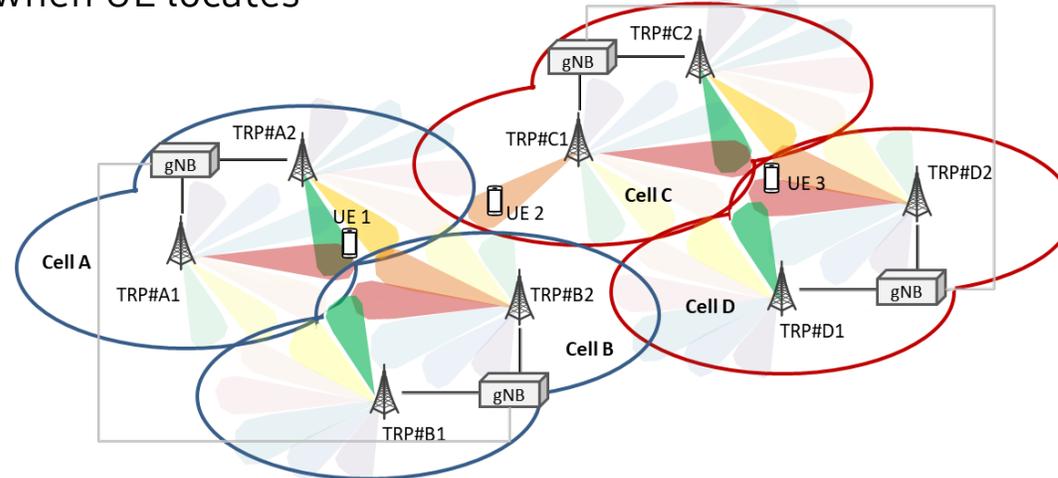
- Rel-18 LTM supports intra-DU case and intra-CU inter-DU case only.
  - Even though the scenarios defined in Rel-18 already covers many deployment scenarios, it is worth to study LTM in inter-CU case for expanding its usage.
  - The security key needs to be updated during handover, and the principle needs to be kept even in LTM scenario. The operation in inter-CU scenario might be more complicated than the one in intra-CU scenario, and this must be studied in advance.
- LTM operation would be beneficial especially in high frequency while the reliability needs to be guaranteed
  - UE needs to act right upon detecting the change of the channel, instead of reporting the channel status to the network.



# Background and Motivation (2/2)

## Legacy RRM measurements can be enhanced to support Rel-18/19 LTM scenarios.

- The L3 RRM measurements can be utilized if network manages multiple cell groups for LTM operations
  - It would be beneficial if network can have e.g., averaged measurement results of multi-TRPs belonging to multiple cells from the UE when network needs to decide handover between multiple cell groups (e.g., between cells A & B and cells C & D in the figure below) for the UE.
  - This would be beneficial especially when UE locates in the boundary of each cell group.



# Potential Objectives

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## The detailed objective of the work item would be:

- To specify mechanism and procedures of L1/L2 based inter-cell mobility for inter-CU case [RAN2, RAN3]
  - Security aspects and PDCP anchor relocation need to be taken into account.
- To specify mechanism and procedures for conditional LTM at least for intra-CU case [RAN2, RAN3, RAN1]
- To specify RRM enhancements considering multi-TRPs belonging to multiple cells [RAN2, RAN4]