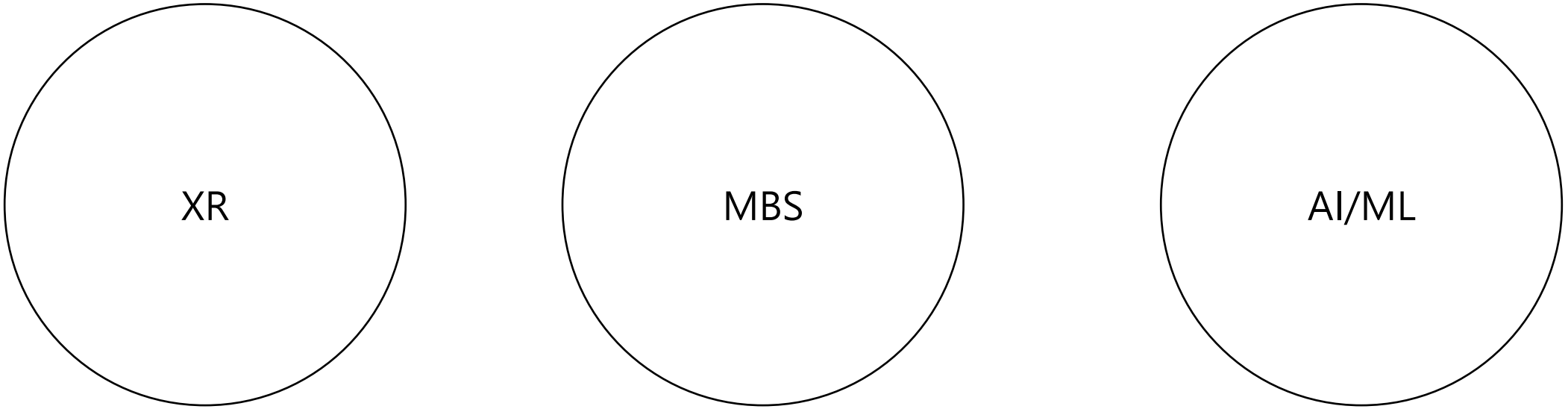
3GPP Rel-18 Workshop: 5G-Advanced
Electronic Meeting, June 28 - July 2, 2021
RWS-210282

LG Uplus views on Rel-18 Cross-Functionalities area

LG U+

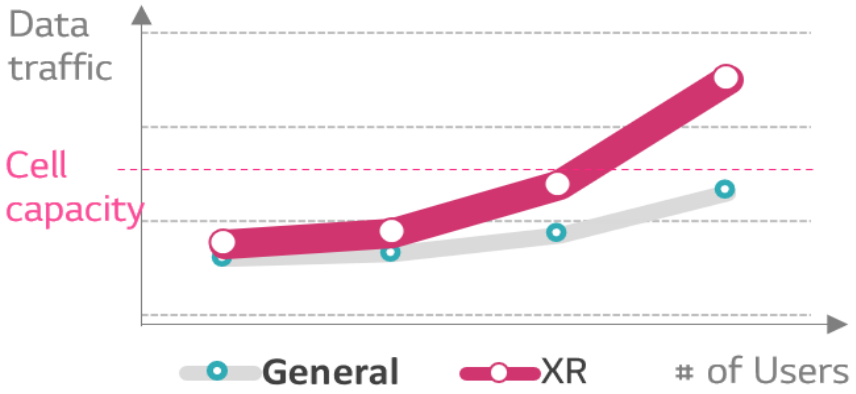
Motivation

- This area need eMBB and non-eMBB functionalities simultaneously which should cover high speed and low latency services with massive connection of devices so that the following items should be in Rel-18.



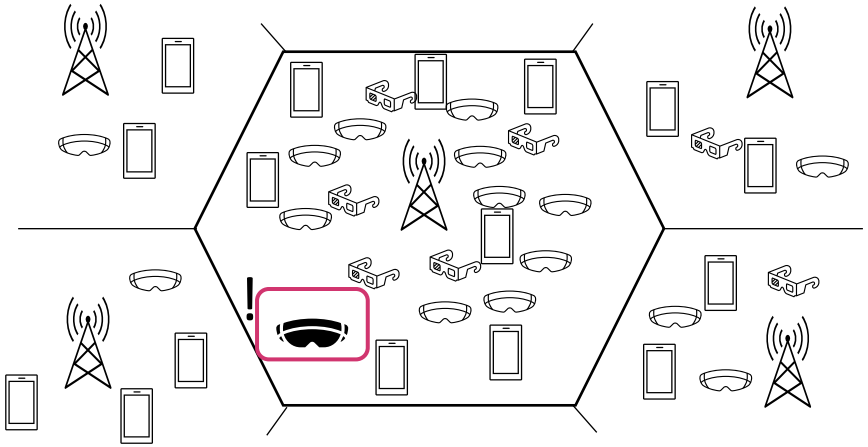
Motivation

- AR/VR real time streaming(4K, 60FPS) needs 50~60Mbps per a UE (=1Gbps per 15~20 UEs) which means efficient capacity handling is required to support mass UEs
- Evaluation methods/criteria are not defined yet which leads the operator should rely on existing data not fully matched



Direction/Requirements

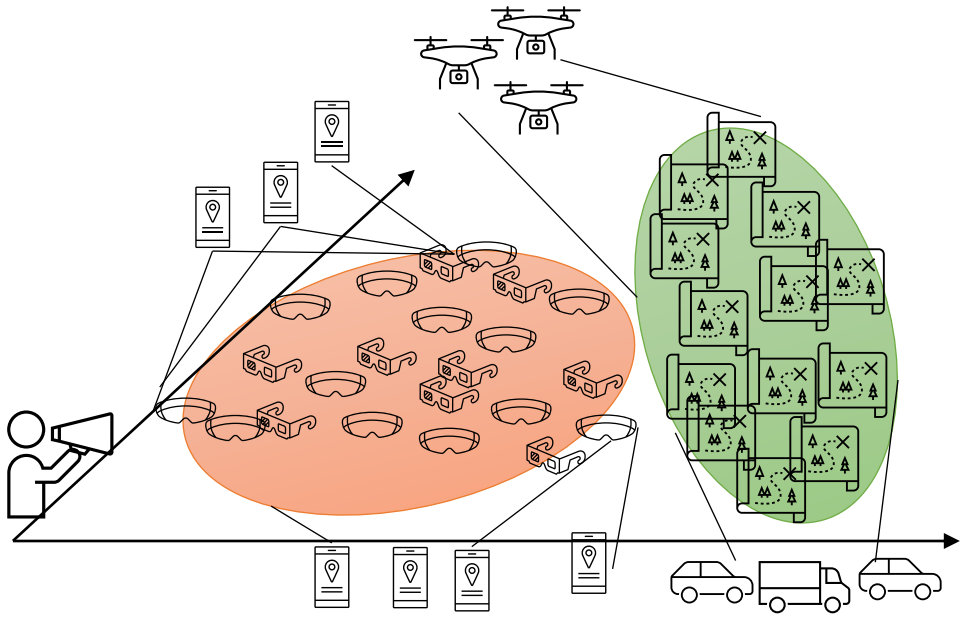
- Spectral efficient solution is required to support XR traffic
  - Either way is desired :
    1) Same traffic capacity with better quality transmission
    2) Lower traffic capacity with same quality transmission
- Defining methods/criteria for XR traffic quality evaluation



Cross-functionalities area – MBS enhancements

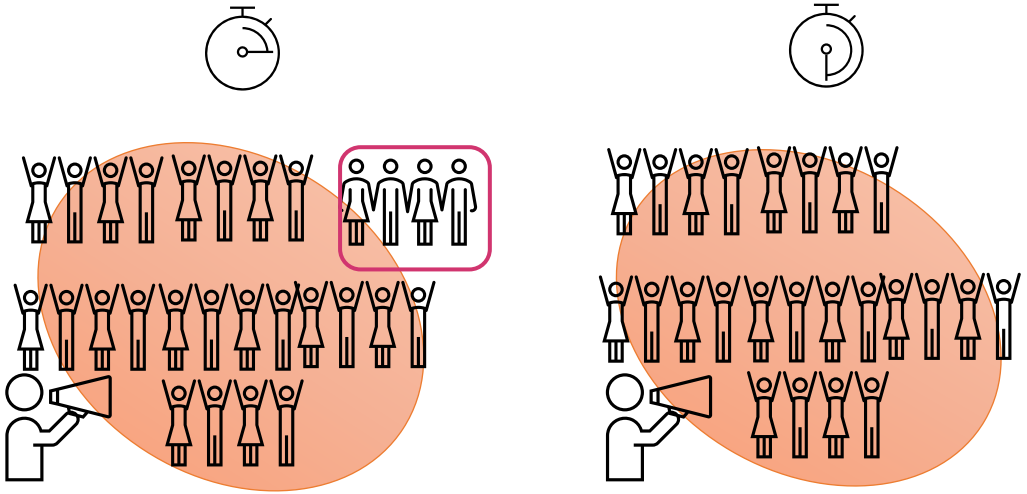
Motivation

- Rel-17 MBS was not targeting for extreme requirements as multicasting/broadcasting XR, dynamic 3D map update within specific area but for general cases
- Usually, the mentioned cases require high capacity and low latency



Direction/Requirements

- Solution for spectral efficiency and latency to support services with extreme requirements within specific area
- Multicasting group management with adaptive MCS
  - Bad group management, group feedback, etc
- Leftovers if there is any from Rel-17 MBS



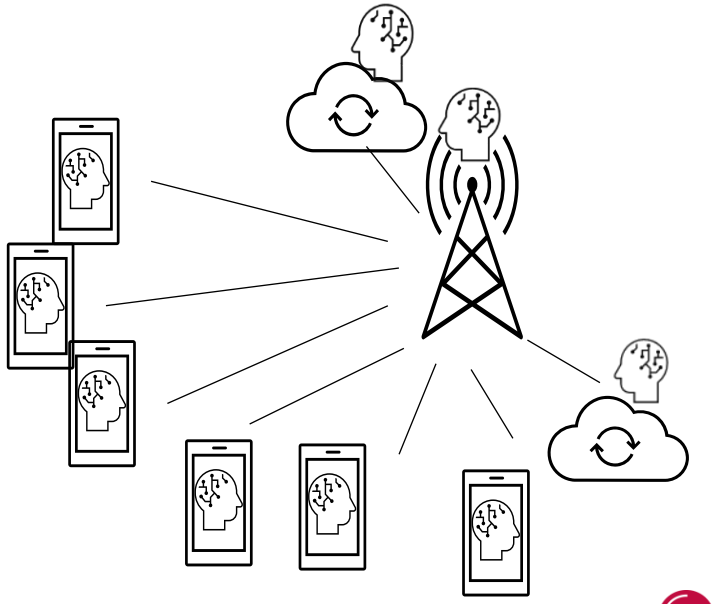
Motivation

- AI/ML based SON : major network vendors are doing with their own way
- AI/ML to air interface for performance improvements
- Rel-18 SA1 SI(WI) AI/ML model transfer in 5GS
  - For sure, the “model transfer” is different from applying AI/ML to air interface of 5G but model transfer can be utilized too, once AI/ML to air interface is ready

Use case for AI model management as a Service [1)]
(Operator cloud for model management)

Direction/Requirements

- Long term study for possibility to adapt AI/ML into the NR air interface to achieve better performance
  - Identifying the parts from each layer can be the candidate for adopting AI/ML first with minimum impact to general wireless communications system
- SON/MDT functionality should be mandatory to utilize its full potential considering energy saving by reducing manual driving test as indicated in our eMBB contribution



1) TR 22.874(Study on traffic characteristics and performance requirements for AI/ML model transfer in 5GS) v1.1.0 – 6.4

Thank you!