

Agenda Item: 14.1.1

# **Motivation for study on further evolution beyond LTE-Advanced using frequency spectrum above 6 GHz**

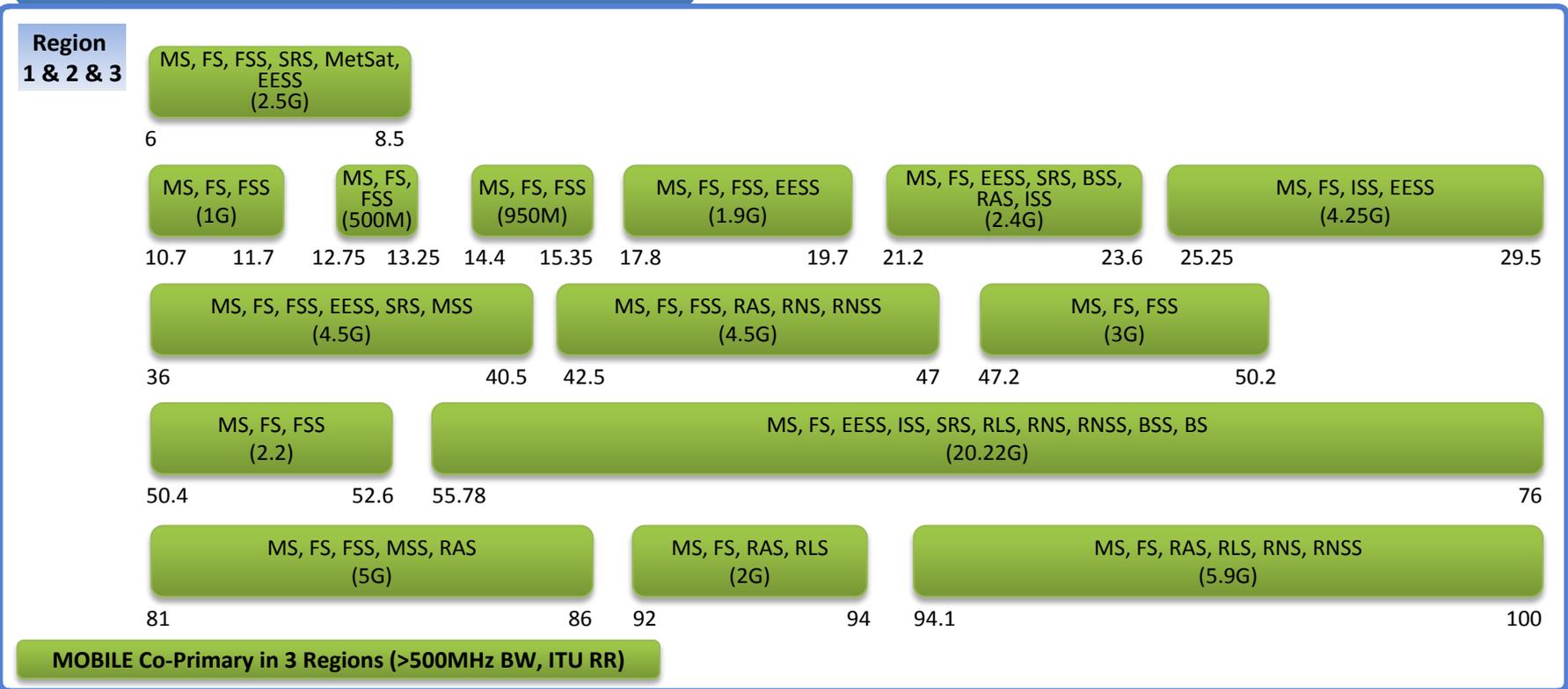
**Samsung**

# Possibility in Frequency bands above 6GHz

- Candidates for large chunks of contiguous spectrum
  - ◆ Possible to find contiguous spectrum of >500 MHz bandwidth

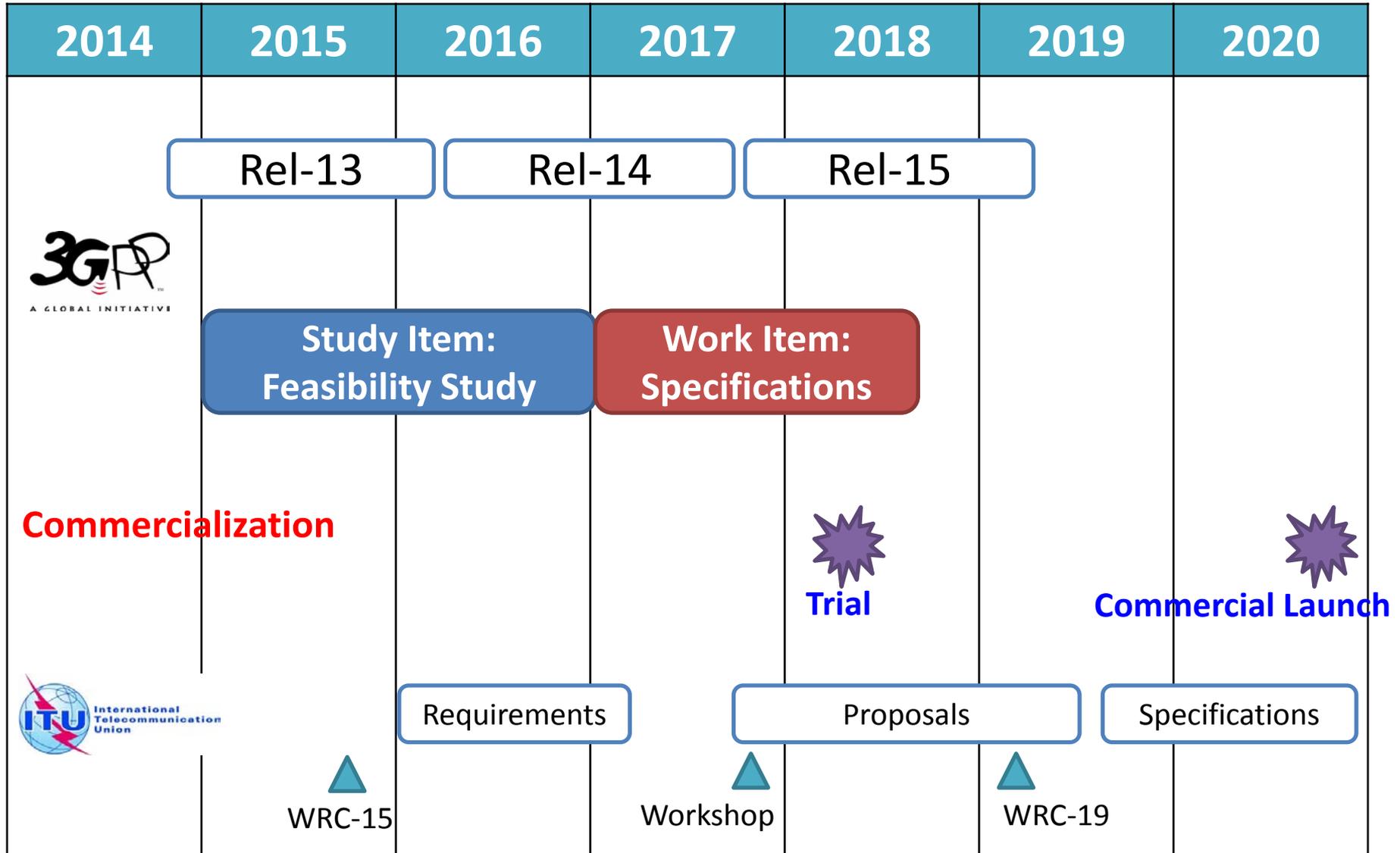
## Higher Frequency Candidates

※ The following figure does not show current usages in each region/country.



MS : Mobile Service    FSS : Fixed Satellite Service    LMDS : Local Multipoint Distribution Service    FS : Fixed Service    P-P : Point to Point    S-E : Space to Earth    E-S : Earth to Space    ISS : Inter-Satellite Service  
 RAS : Radio Astronomy Service    SRS : Space Research Service    EESS : Earth Exploration Satellite Service    MSS : Mobile Satellite Service    RNS : RadioNavigation Service    RNSS : RadioNavigation Satellite Service  
 RLS : RadioLocation Service    BS : Broadcasting Service    BSS : Broadcasting Satellite Service    MetSat : Meteorological Satellite Service

# Time Plan for Technologies above 6GHz



# Objective of the Proposed Study Item

- Identify the status/expectation of global spectrum allocation for frequency range above 6GHz.
- Identify potential use cases and application scenarios for using high frequency spectrum above 6 GHz.
- Develop technical requirements taking into account the identified use cases and application scenarios.
- Identify frequency spectrum range and maximum bandwidth for the purpose of evaluation and feasibility study.

Dec 2014  
to  
June 2015

- Agree on channel models and evaluation scenarios for the frequency spectrums to be considered taking into account the activities outside 3GPP, such as COST project.
- Develop numerologies of the system for the considered frequency spectrums for the purpose of evaluation and feasibility study.
- Identify technologies required for the high frequency system and evaluate achievable performance.
  - Performance should be evaluated in terms of peak rate as well as spectrum efficiency (average and cell edge).
- Identify the relationship between the high frequency system and the LTE/LTE-Advanced, and develop technologies for overall system operation.
- Develop design principles for the identified techniques and identify potential specification impact.
- The technical report of study item should contain stage-2 level description, based on which stage-3 work can start.

June 2015  
to  
Dec 2016

# Detailed Time Plan for SI in 3GPP RAN WG1



	Q1	Q2		Q3	Q4	
2015	R1#80	R1#80b	R1#81	R1#82	R1#82b	R1#83
	1TU	1TU	1TU	3TU	3TU	3TU
2016	R1#84	R1#84b	R1#85	R1#86	R1#86b	R1#87
	3TU	4TU	4TU	4TU	4TU	4TU

Note: 1TU is approximately 2 hours

**Thank You!**

