3GPP TSG RAN #67
Shanghai, China, 9 – 12 March, 2015

RP-150217

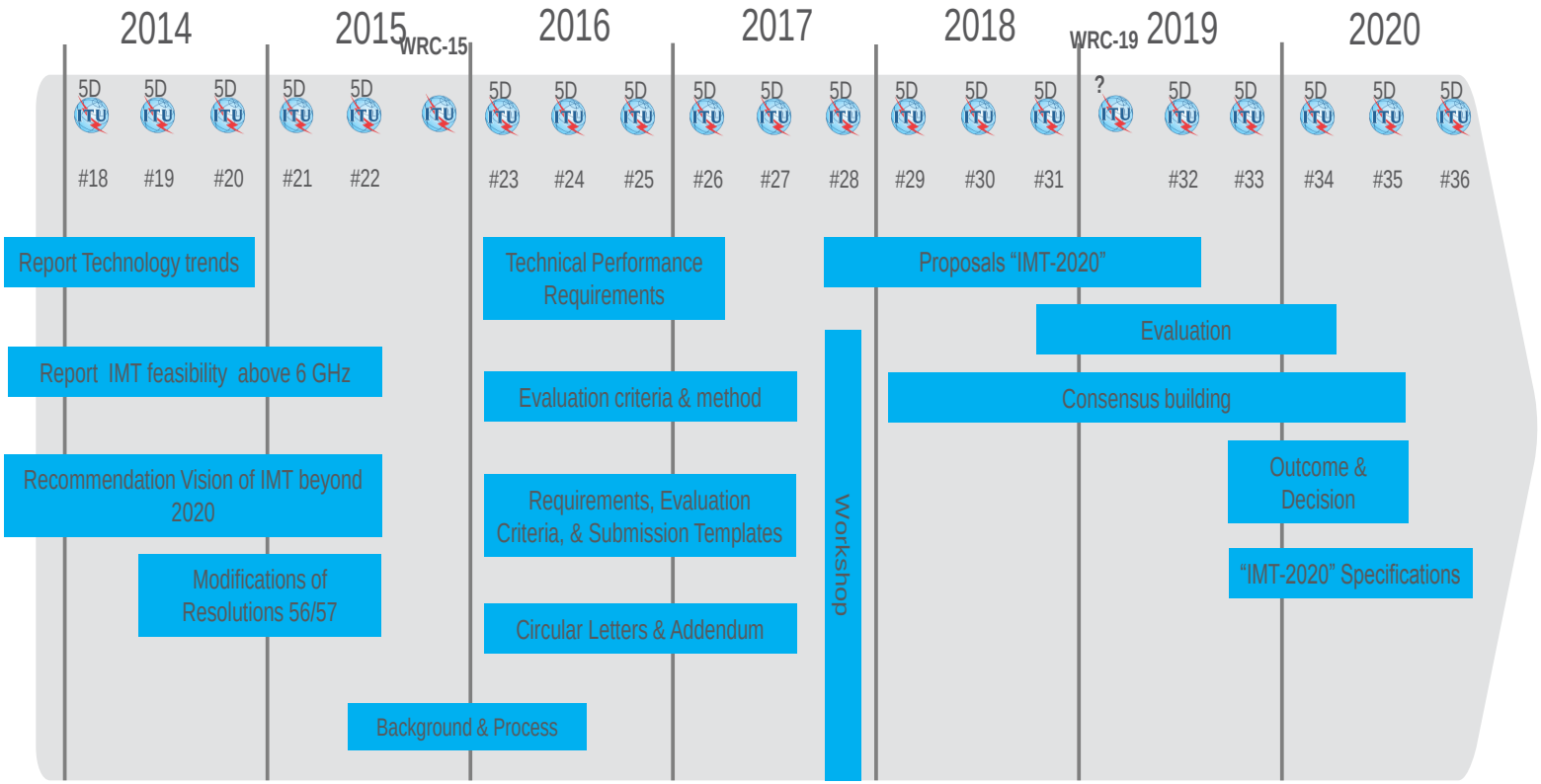
5G Standardization Work Plan

NTT DOCOMO, Fujitsu, Hitachi, Kyocera, Mitsubishi, NEC, NTC, NTT, Panasonic, Sharp, Sony

Agenda item: 18
Document for: Discussion and Decision

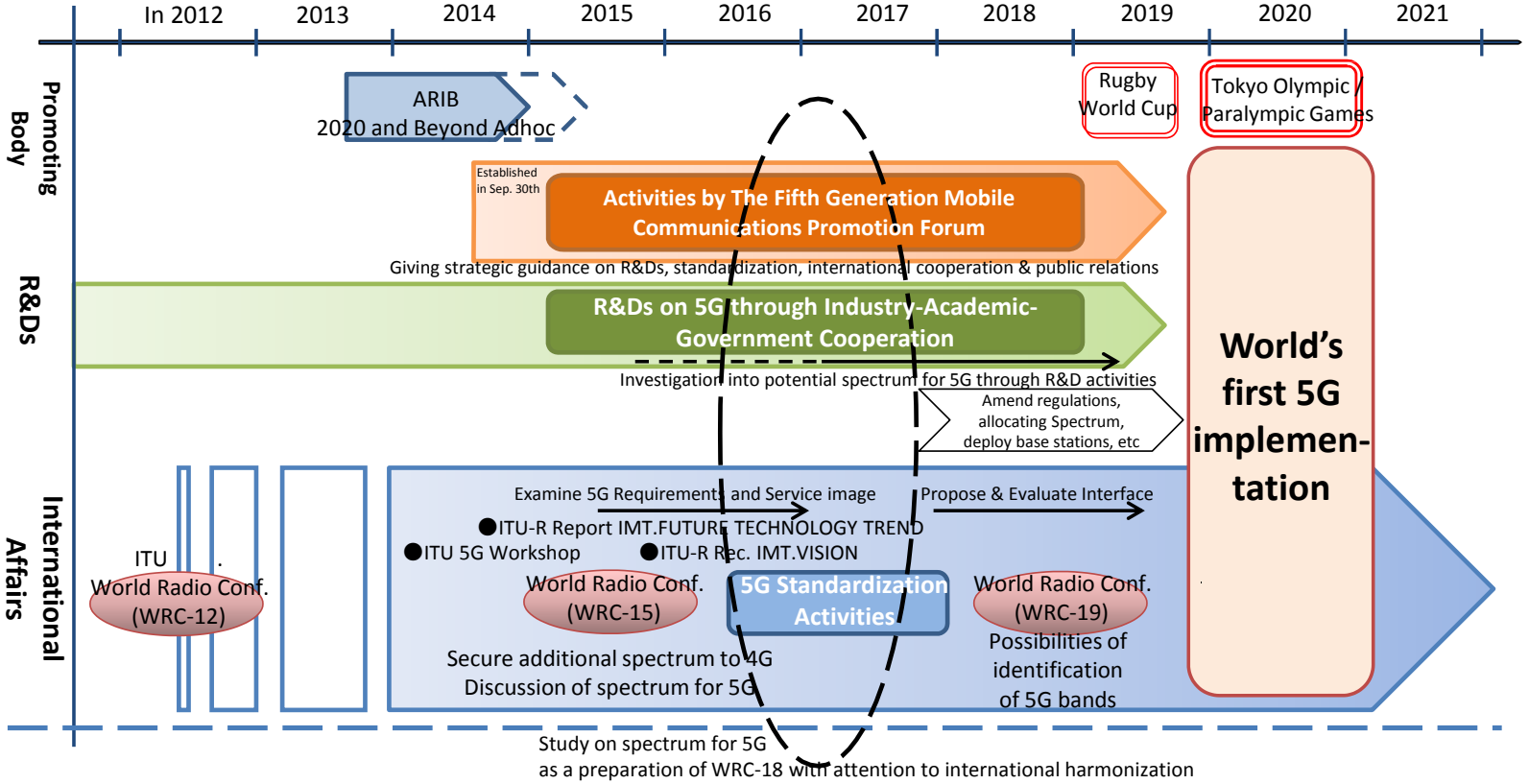
5G Work Plan for ITU-R Submission

- 5G work plan in 3GPP needs to be defined and aligned with ITU-R time line
  - Stable 3GPP specifications should be ready for ITU-R submission by end of 2019



5G Work Plan for Commercial Requirements

- Commercial requirements also need to be considered by 5G work plan of 3GPP
- Japan is targeting **5G commercial launch in 2020** (see below figure provided by Japanese MIC)
- The co-sourcing companies request 3GPP to develop initial 5G specifications so as to enable the initial deployment of 5G system in 2020



Translated from "Final Report from the Radio Policy Vision Council", Ministry of Internal Affairs and Communications, Japan, December 2014.

Proposed 3GPP Work Plan for 5G

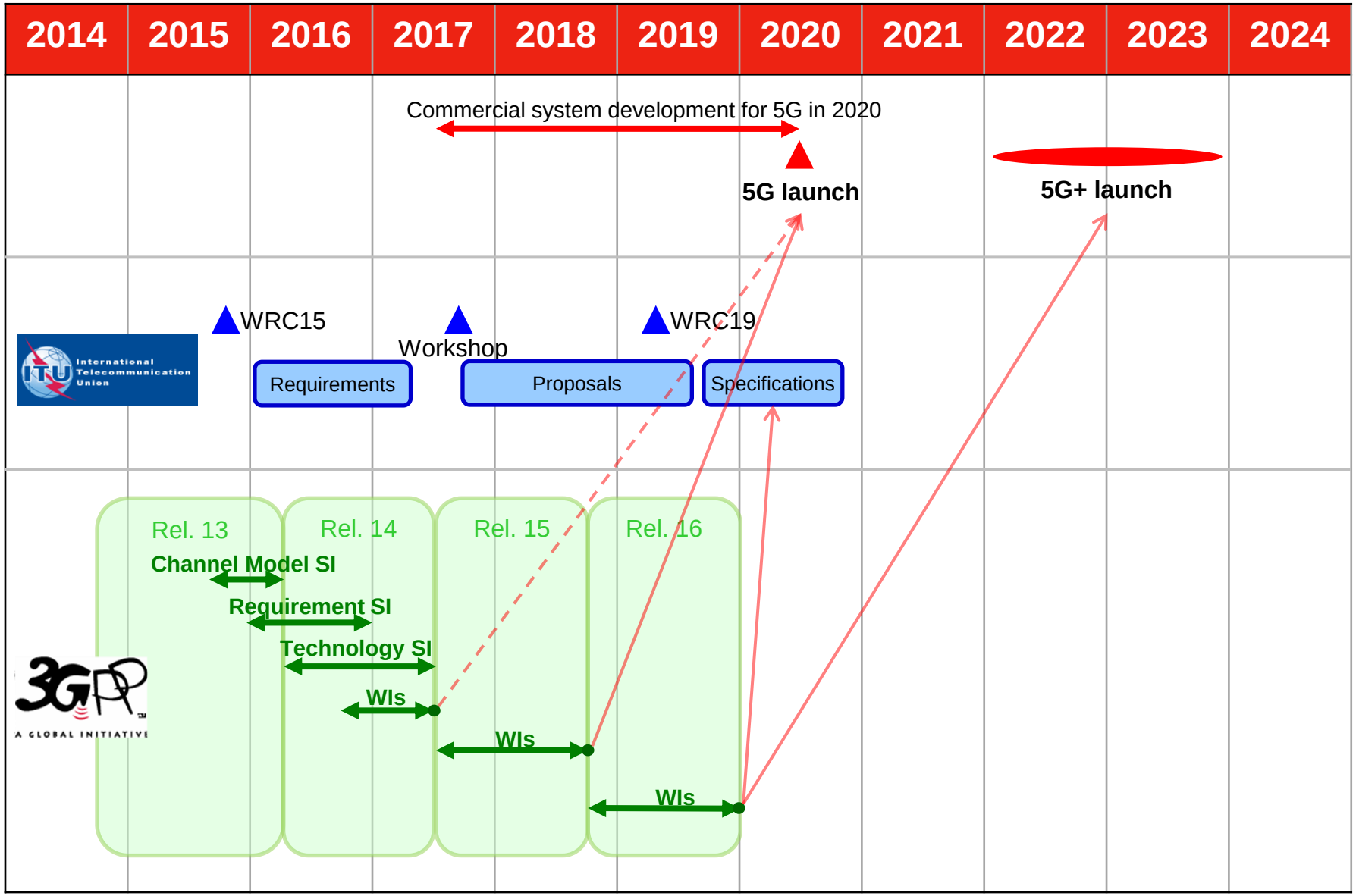
- Considering both aspects of ITU-R submission and commercial requirements in Japan, we propose following 3GPP work plan for 5G

- Work plan for **5G deployment in 2020**
  - Specifications for 5G in 2020 should be ready no later than end of 2018 to ensure enough time for system development and testing
  - Earlier implementation features for 5G in 2020 can be a subset of the ITU-R requirements
  - Among all ITU-R requirements, MBB (mobile broadband) related requirements (e.g., data rate, capacity) should be prioritized for 5G launch in 2020
- Work plan for **ITU-R submission**
  - Stable specifications at the end of 2019 should be submitted to ITU-R
  - Features in the specs should satisfy all ITU-R requirements
  - To be deployed in 2022 or 2023 as 5G+

5G Work Plan and 3GPP Release

- Release 13/14 for study
  - It is better to complete channel model for spectrum >6 GHz before the start of technical evaluation which has a relation to higher channel model in 3GPP and ITU-R evaluation methodology
  - Requirement SI and Technical SI should be started ASAP to allocate enough time for the following technical study and specification work. Negative impact to on-going Rel-13 SIs/WIs shall also be avoided
- Release 14/15 WIs for **5G in 2020**
  - Features for 5G in 2020 would be based on Rel-15 specs
  - Release cycle of Rel-14/15 should be about 15 months to complete specifications for 5G in 2020 by end of 2018
  - Fundamental 5G features should be specified in Rel-14,
    - Considering potential risk of future release schedule extension
    - For earlier start of 5G system development to ensure 5G launch in 2020
    - Considering forward compatibility with Rel-15 and later
    - Allowing early drop from the SI to WIs in Rel-14
- Release 16 WIs for **5G+ in 2022 or 2023**
  - Features for 5G+ would be based on Rel-16 specs
  - For ITU-R submission, Rel-16 length should be about 15 months as well

Overall 5G Time Plan



Conclusion

- 5G work plan in 3GPP should be aligned with ITU-R time plan
- 3GPP is also requested to consider commercial requirements in Japan, i.e. 5G launch in 2020, in the 5G work plan of 3GPP
- It is proposed to start 5G studies ASAP while avoiding any negative impact to on-going Rel-13 SIs/WIs
- 5G launch in 2020 should be based on Rel-15 specs; however, fundamental features for 5G in 2020 should be specified in Rel-14 specs
- 5G+ to be deployed in 2022 or 2023 should be based on Rel-16 specs
- Rel-16 specs should meet all of ITU-R requirements and be submitted to ITU-R

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