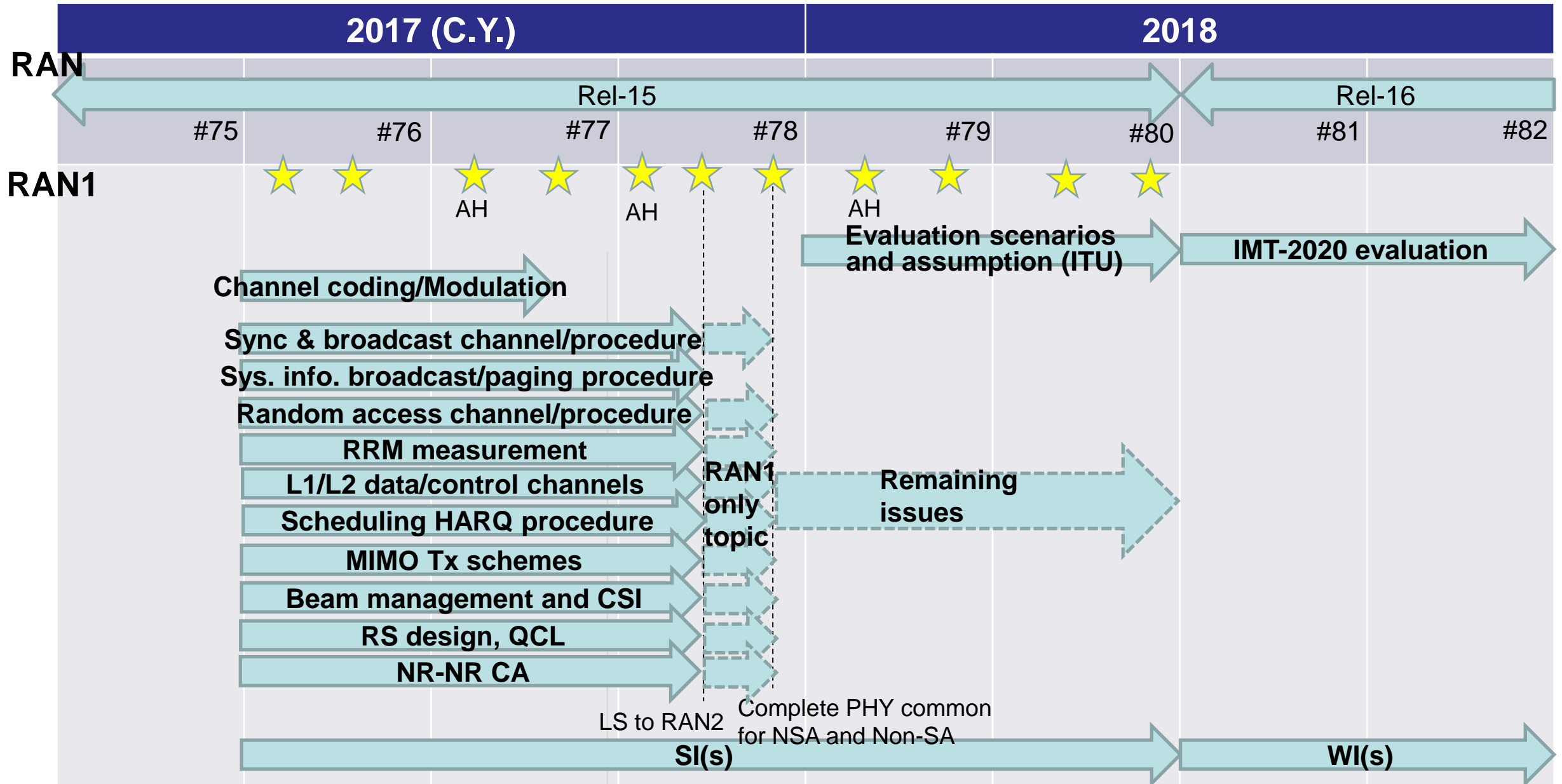


Work plan for Rel-15 New Radio access technology WI

NTT DOCOMO, INC.

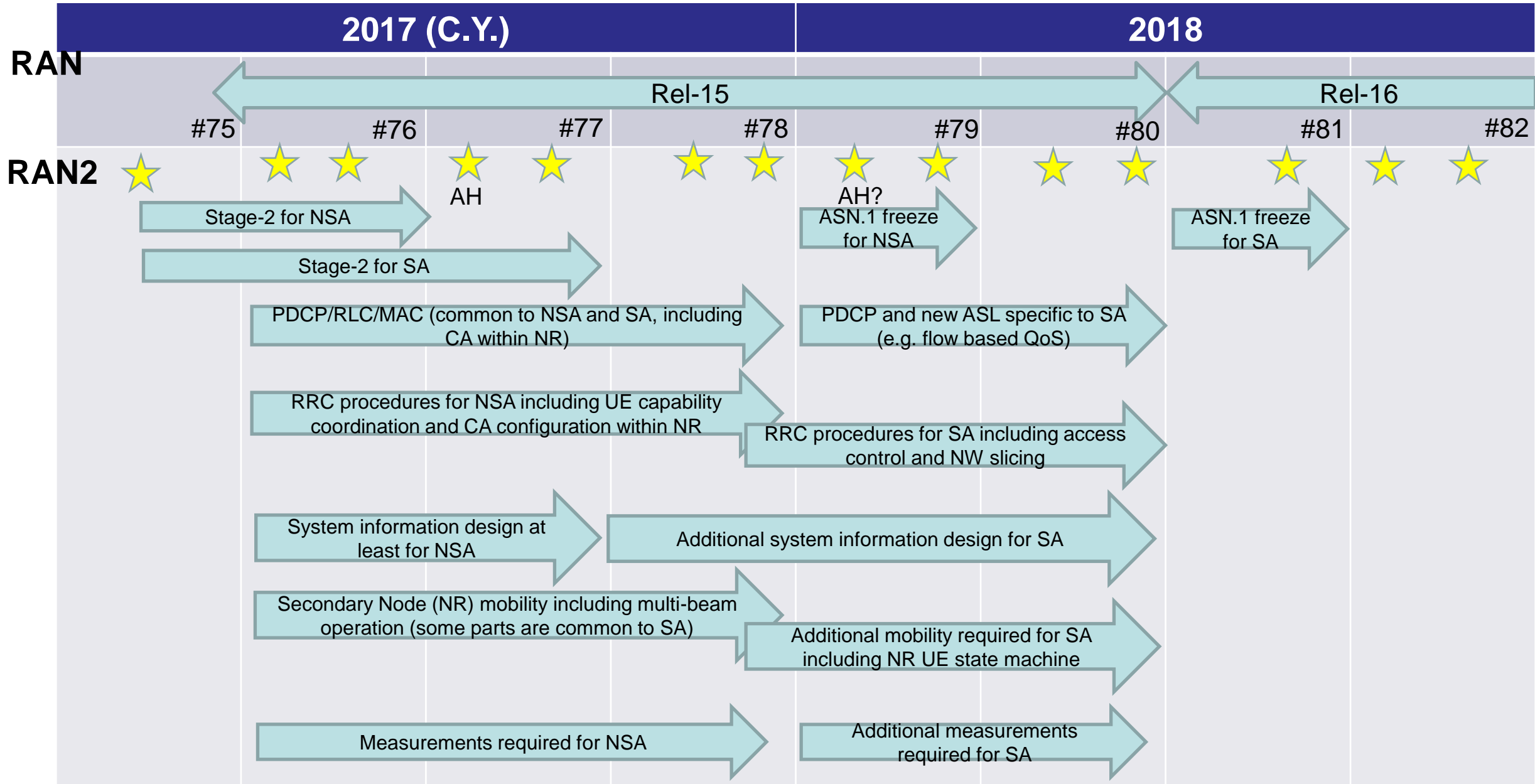
RAN/RAN1 Time Plan



- **Initial access and mobility**
 - **Until Dec. 2017**
 - SS design
 - PRACH design
 - 4-step RACH procedure
 - RS design for L3 mobility
 - Intra- and inter-frequency RRM measurement procedure
 - PBCH design
 - System information broadcasting procedure
 - Paging design and procedure
- **L1/L2 control channels and scheduling/HARQ**
 - **Until Dec. 2017**
 - DL/UL control channel designs for eMBB
 - DL/UL scheduling/HARQ procedures for eMBB
 - UL TPC for LTE-NR CA/DC
 - UL-DL alignment with TD-LTE
 - LTE-NR dual connectivity (covered by CA/DC)
 - Common frame structure for FDD and TDD
 - Mechanisms to enable dynamic/flexible DL/UL scheduling per slot basis
 - NR-NR CA
 - **Until June 2018**
 - Necessary enhancements of DL/UL control channels and data scheduling/HARQ procedures including:
 - Different numerologies

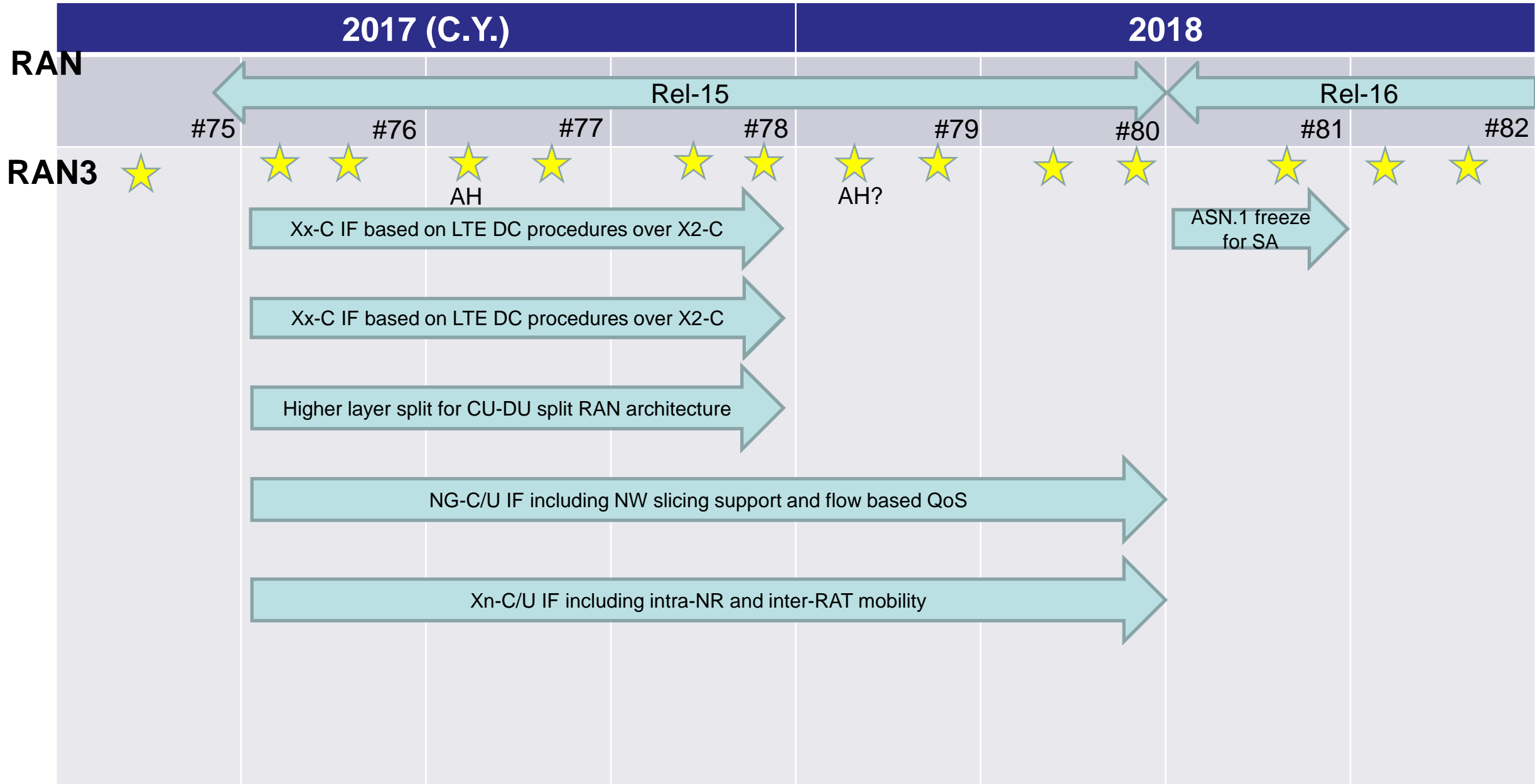
- **MIMO**
 - **Until Dec. 2017**
 - Beam management procedures
 - RS designs (DMRS, CSI-RS, SRS, PTRS)
 - QCL
 - Type I CSI and Type II CSI
 - Diversity transmission schemes
 - UL TPC
 - UL MIMO
 - **Until June 2018**
 - Remaining part of MIMO designs (only limited to RAN1)

RAN2 Time Plan



Features for Dec 2017 early drop	Features for Phase 1 (beyond Dec 2017)
<ul style="list-style-type: none">▪ Layer 2 protocols<ul style="list-style-type: none">- PDCP- RLC- MAC▪ Minimum System Information required for NSA▪ Secondary Node (NR) mobility<ul style="list-style-type: none">- beam level mobility is included▪ Measurements required for NSA, including<ul style="list-style-type: none">- NR measurements for UE in LTE- Measurements for Secondary Node mobility▪ RRC procedures for NSA<ul style="list-style-type: none">- UE capability coordination is included▪ Carrier Aggregation with NR for Secondary Node (i.e. only PSCell and SCell)	<ul style="list-style-type: none">▪ New AS layer for flow based QoS▪ Additional System Information for SA▪ Additional mobility required for SA, including<ul style="list-style-type: none">- NR UE state machines and relevant mobility- NR paging▪ Additional measurements for SA▪ Additional RRC procedures for SA, including<ul style="list-style-type: none">- access control- security key management▪ Network slicing

RAN3 Time Plan



Features for Dec 2017 early drop	Features for Phase 1 (beyond Dec 2017)
<ul style="list-style-type: none">▪ Xx-C/U interface for EN-DC (option 3) operation, including;<ul style="list-style-type: none">- SgNB addition- SgNB modification (MeNB/SgNB initiated)- Intra-MeNB HO involving SCG change- SgNB release (MeNB/SgNB initiated)- MeNB to eNB change and vice versa- SCG change- Inter-MeNB HO w/o SgNB change▪ Higher layer split for CU-DU split RAN architecture (for EN-DC operation)	<ul style="list-style-type: none">▪ NG and Xn interface for;<ul style="list-style-type: none">- Standalone NR operation- Flow based Qos- Intra-NR mobility for connected/inactive- Inter-RAT mobility- Network slicing▪ Higher layer split for CU-DU split RAN architecture (for Standalone NR operation, if there is delta from EN-DC)

RAN/RAN4 Time Plan

