Technical Specification Group – System and Service Aspects (TSG-SA)

Project Co-ordination Group (PCG)		
TSG RAN Radio Access Network	**TSG SA** Service & System Aspects	**TSG CT** Core Network & Terminals
RAN WG1 Radio Layer 1 (Physical layer)	**SA WG1** Services	**CT WG1** User Equipment - Core Network protocols
RAN WG2 Radio layer 2 and Radio layer 3 Radio Resource Control	**SA WG2** System Architecture and Services	**CT WG3** Interworking with External Networks & Policy and Charging Control
RAN WG3 UTRAN/E-UTRAN/NG-RAN architecture and related network interfaces	**SA WG3** Security and Privacy	**CT WG4** Core Network Protocols
RAN WG4 Radio Performance and Protocol Aspects	**SA WG4** Multimedia Codecs, Systems and Services	**CT WG6** Smart Card Application Aspects
RAN WG5 Mobile Terminal Conformance Testing	**SA WG5** Management, Orchestration and Charging	
	SA WG6 Application Enablement and Critical Communication Applications	
RAN AH1 RAN ad hoc group on ITU-R		

Ongoing Release timelines

2021 2022 2023 2024 2025 2026

TSGs

| #91-e | #92-e | #93-e | #94-e | #95-e | #96 | #97-e | #98e | #99 | #100 | #101 | #102 | #103 | #104 | #105 | #106 | #107 | #108 | #109 | #110 | #111 | #112 | #113 | #114 |
| Mar. | Jun. | Sep. | Dec. | Mar. | Jun. | Sep. | Dec. | Mar. | Jun. | Sep. | Dec. | Mar. | Jun. | Sep. | Dec. | Mar. | Jun. | Sep. | Dec. | Mar. | Jun. | Sep. | Dec. |

Release 18

SA1 Stage 1

RAN Content def.*

Stage 2 Normative

RAN Completion**   Maint.*

Stage 3 (CT & SA)

ASN.1 & Open APIs

ASN.1 1st review

Note: All starting dates are indicative

*: +3 months for RAN4
**: - 3 months for RAN1 &
+ 3 months for RAN4 perf

SA1 Stage 1

RAN Content Def*

SA S2 Content Def

Release 19

Stage 2 Normative

RAN Completion**

Stage 3 (CT & SA)

ASN.1 & Open APIs

Now

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Release 18 timeline

2021	2022	2023	2024

TSGs

#93-e	#94-e	#95-e	#96	#97-e	#98-e	#99	#100	#101	#102	#103	#104	#105
Sep.	Dec.	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.

Release 18

SA1 Stage 1   100%

RAN Content def.

RAN4 content def.

Stage 2 (SA2, SA6,...) Normative

RAN1 — Maint.

RAN Completion (RAN2/3/4core) — Maint. — RAN4_Perf

Stage 3 (CT & SA)

ASN.1 & Open APIs

ASN.1 1st review

Note: All starting dates are indicative

Now

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# Release 18 Progress: Stages 1 & 2

- Stage 1 and content definition:
  - **Completed** since TSG#94
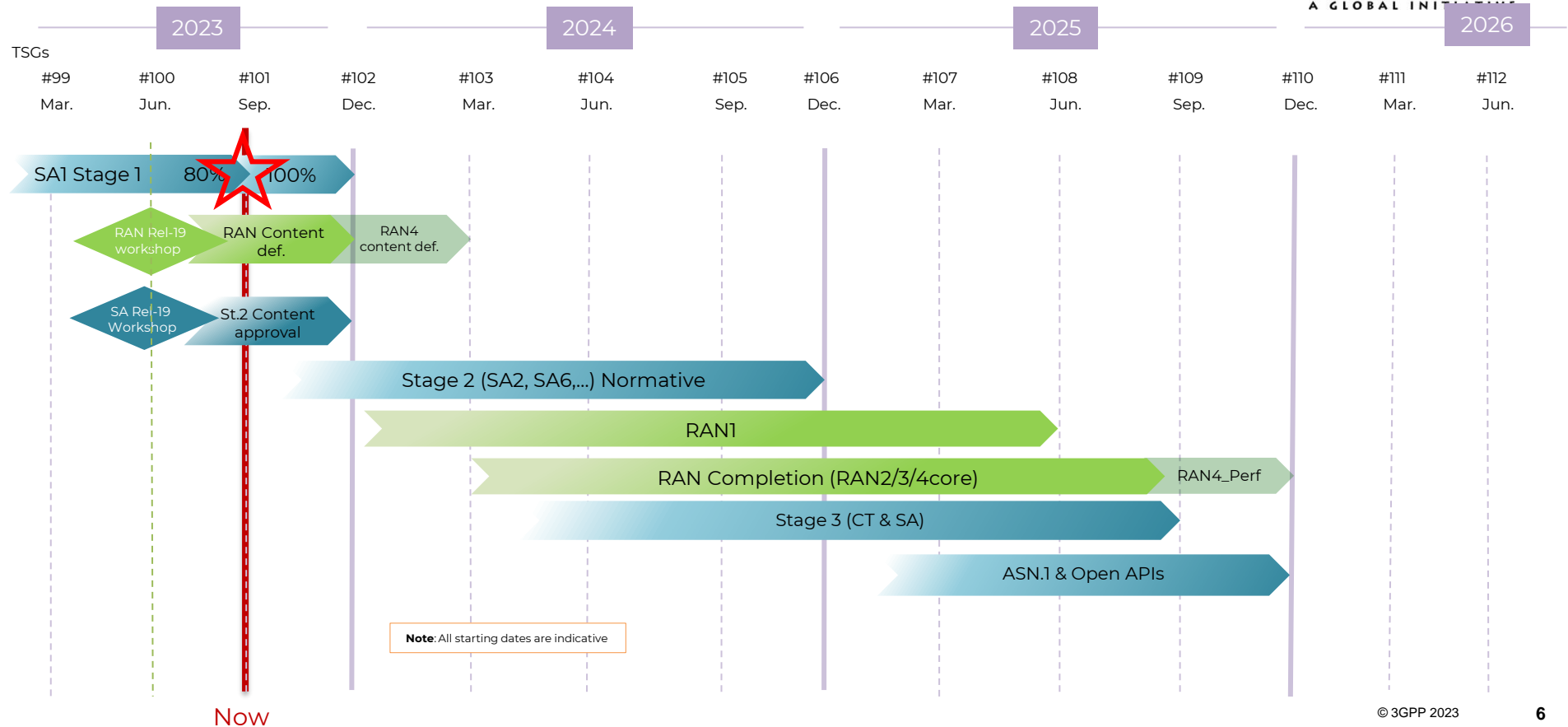 - In total, 25 normative items plus 14 studies.
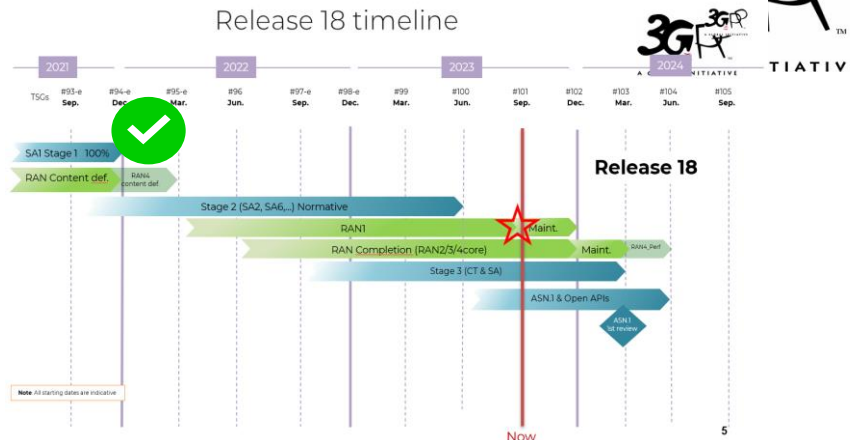
- Stage 2 at SA2 and SA6:
  - **Stage 2 (at SA2 and SA6) studies :**
    - In total, 43 studies
    - Completed since TSG#99
      - except for EDGEAPP_EXT (UID 960011, SA6, now 65%, targeted for Dec.)
  - **Stage 2 (at SA2 and SA6) normative progress :**
    - In total, 57 tasks
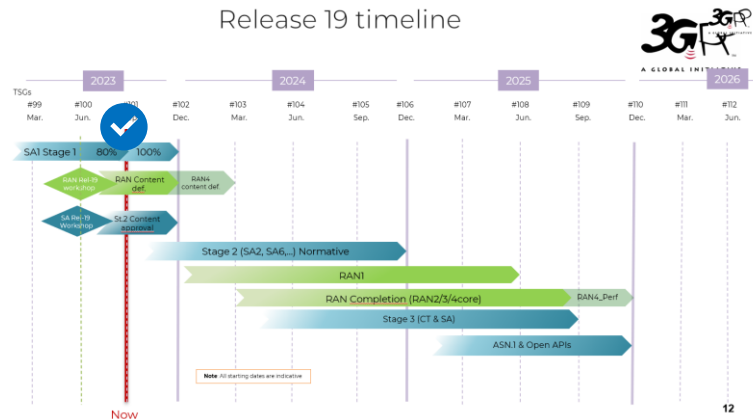   - Completed since TSG#100, including XRM (SA2, was 98% at TSG#100, now 100%)
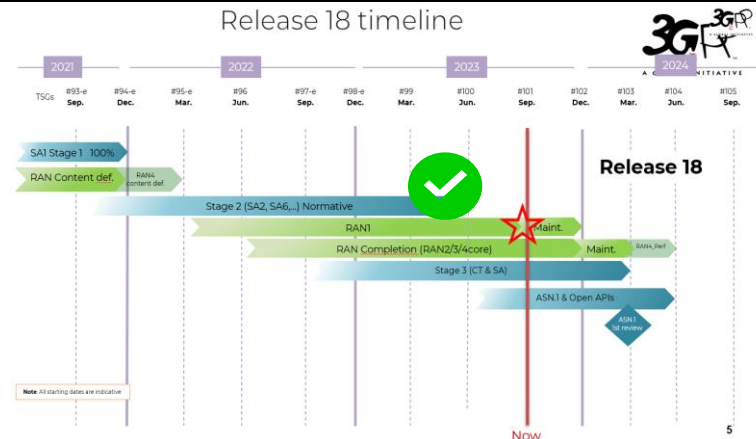
Release 19 timeline

Release 19 progress overview
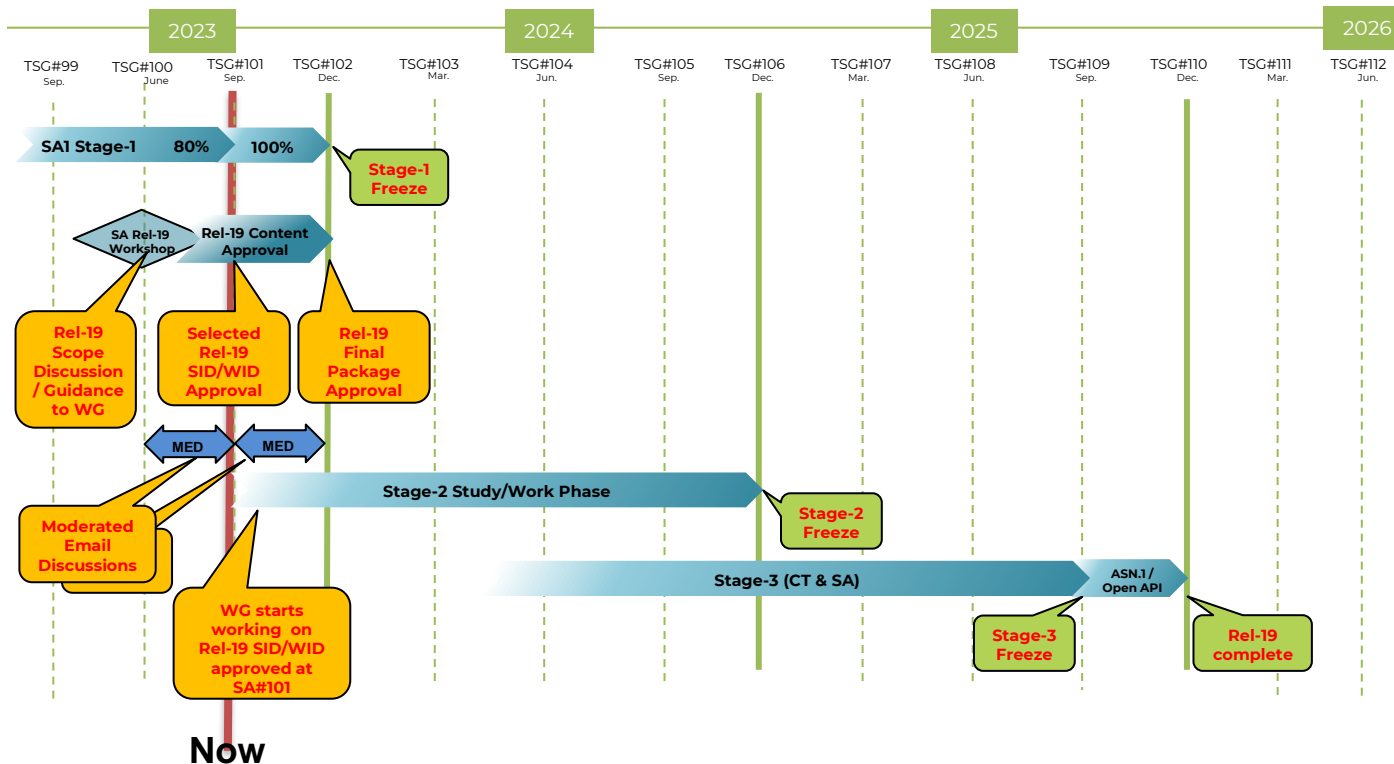
Stage 1 (SA1):

- Studies :
  - 14 studies – same as at previous TSG
  - **OCI (St.1 Studies from SA1) = 94 %** (against 80% at previous TSG).
- Normative :
  - 23 tasks, including "miniWIDs"
  - **OCI (St.1 Normative from SA1) = 92 %**

Release 19 timeline

Stage 2 & 3:

- Studies :
  - 4 studies – one more than at previous TSG: 1 from SA4, 3 from SA6
  - **OCI = 15 %**
- Normative :
  - 8 tasks
  - **OCI = 3 %**

OCI = Overall Completion Index =sum of all % completion divided by the number of items

Rel-19 Content Definition Process

SA2 Rel-19 candidate topics

S.No.	Rel-19 Core Topics	Rel-19 Miscellaneous Topics
1	Satellite Architecture Enhancements	SBA framework enhancement / 5GS enhancement for Cloud Native Deployment
2	XRM Enhancements and Metaverse	Network Slicing
3	AI/ML Enhancements	5G SA Roaming services and Intermediaries (GSMA 5MRR request)
4	Multi-access (Dual 3GPP + ATSSS Enh)	Traffic Management (Monitoring + + QUIC)
5	Integrated Sensing and Communication	Enhancements in handling of Radio Capabilities
6	Ambient IoT	5GC enhancements for IP routing
7	Energy Efficiency / Energy Saving as a Service	Enhancing Emergency Services when Zero CS network coverage
8	IMS and NG_RTC enhancements	NPN enhancements
9	Edge Computing Enhancements	Ranging Phase 2
10	Proximity Services enhancements	LCS enhancements
11	TSC/URLLC/TRS enhancements	Mobile VPN
12	Network Sharing	Architecture Enhancements for Energy Utilities
13	User identities + identification of device behind RG/AP	eUEPO (UE Policy) Enhancements
14	5G Femto	Interworking of Non-3GPP Digital Terrestrial Broadcast Networks with 5GS Multicast Broadcast Services
15	UAS enhancements	RVAS (Roaming Value-Added Services)
16	VMR Enhancements	
17	UPEAS Enhancements	

Green denotes topics for which SIDs were agreed at the SA#101 meeting.

Cyan denotes topics that will be discussed further in Q4.

The remaining topics will not be part of Rel-19 content.

Rel-19 Work/Study Items

UID	Title	Acronym	Rel#	SA WG	WID#
1000026	Integrated Sensing and Communication	Sensing	Rel-19	S1	SP-230750
1000028	Mobile Metaverse Services	Metaverse	Rel-19	S1	SP-230509
1010032	Study on Extended Reality and Media service (XRM) Phase 2	FS_XRM_Ph2	Rel-19	S2	SP-231198
1000029	Indirect Network Sharing	NetShare	Rel-19	S1	SP-230511
1000031	FRMCS Phase 5	FRMCS_Ph5	Rel-19	S1	SP-230512
1000030	AI/ML Model Transfer Phase 2	AIML_MT_Ph2	Rel-19	S1	SP-230514
1010005	Study on application layer support for AI/ML services	FS_AIMLAPP	Rel-19	S6	SP-231182
1000024	Satellite access Phase 3	5GSAT_Ph3	Rel-19	S1	SP-230516
1010033	Study on Integration of satellite components in the 5G architecture Phase 3	FS_5GSAT_ARCH_Ph3	Rel-19	S2	SP-231199
1000032	Uncrewed Aerial System Phase 3	UAS_Ph3	Rel-19	S1	SP-230518
1010008	Application Architecture for UAS applications Phase 3	UASAPP_Ph3	Rel-19	S6	SP-230991
1000033	Energy Efficiency as Service Criteria	EnergyServ	Rel-19	S1	SP-230520
1010029	Study on Energy Efficiency and Energy Saving	FS_EnergySys	Rel-19	S2	SP-231192
1010030	Study on system architecture for next generation real time communication services phase 2	FS_NG_RTC_Ph2	Rel-19	S2	SP-231196
1010031	Study on MPS for IMS Messaging and SMS services	FS_MPS4msg	Rel-19	S2	SP-231197
1000025	UE-to-UE multi-hop relay	UEMHopRelay	Rel-19	S1	SP-230521
1010025	Local traffic routing for multi-access UE	LTR_MA	Rel-19	S1	SP-231035
1010022	Edge Computing Considering the Operational Needs of Service Hosting Environment	EdgeOpNeeds	Rel-19	S1	SP-231037
1000027	NPN security considerations	SecNPN	Rel-19	S1	SP-230523
1000034	Study on Service aspects for supporting the eMMTel service	FS_eMMTelAPP	Rel-19	S6	SP-230779
1000035	Study on enhanced application layer support for location services	FS_eLSAPP	Rel-19	S6	SP-230778
1000036	Sharing of administrative configuration between interconnected MC service systems	MCShAC	Rel-19	S6	SP-230692
1000037	5GMSG Service phase 3	5GMARCH_Ph3	Rel-19	S6	SP-230781
1000038	Railways specific Enhancements to Mission Critical Services	enh4FRMCS	Rel-19	S6	SP-230780
1000039	Enhanced Mission Critical Architecture	enhMC	Rel-19	S6	SP-230988
1010006	SEAL DD (Data Delivery) Phase 2	SEALDD_Ph2	Rel-19	S6	SP-230989
1010007	Architecture for enabling Edge Applications Phase 3	EDGEAPP_Ph3	Rel-19	S6	SP-231160
1010009	Guidelines for CAPIF Usage	CAPIF_EXT	Rel-19	S6	SP-231161
1010010	5G Security Assurance Specification (SCAS) for the Unified Data Repository (UDR)	SCAS_5G_UDR	Rel-19	S3	SP-230864
1010011	5G Security Assurance Specification (SCAS) for the Short Message Service Function (SMSF)	SCAS_5G_SMSF	Rel-19	S3	SP-231158
1010012	Addition of 256-bit security Algorithms	256_Algo	Rel-19	S3	SP-231159

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Thank you

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