

3GPP Media-Related Work

Source: SA4 leadership

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3GPP 5G Timeline



Release timing

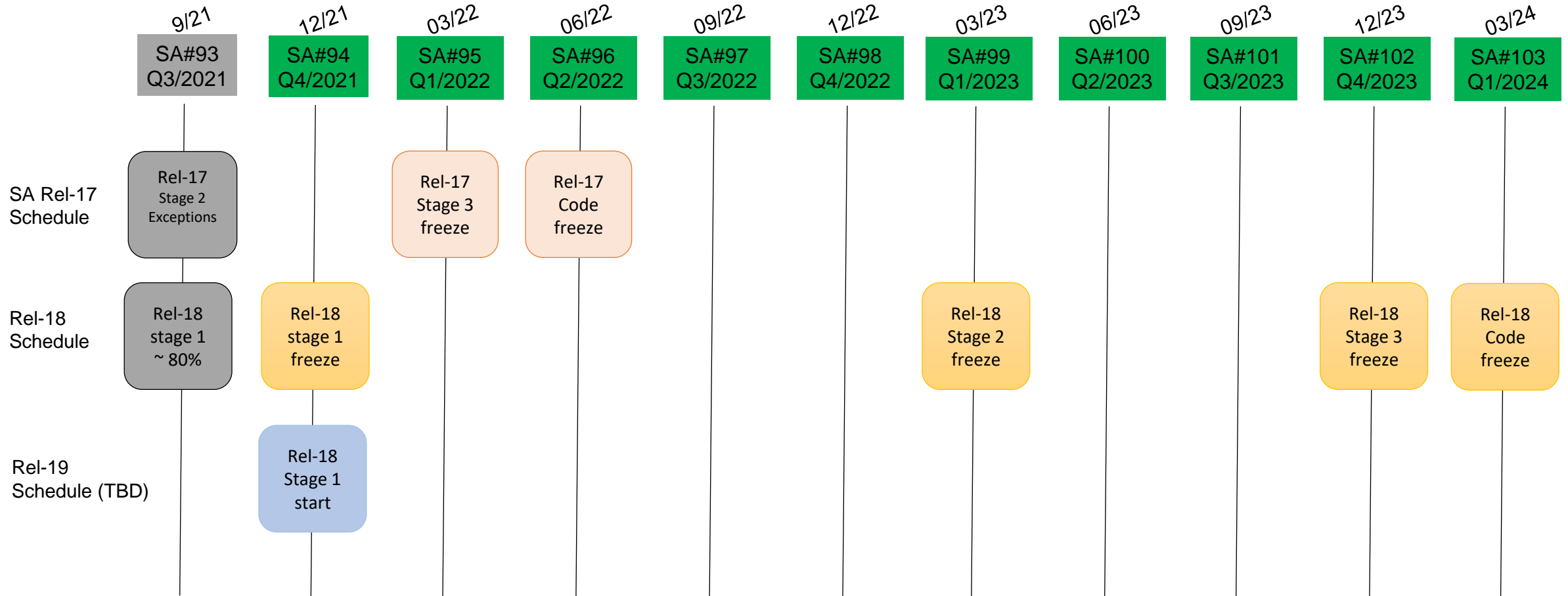


Phases for the normative 5G work:

- Phase 1 (Rel-15) addresses the more urgent subset for commercial deployments
- Phase 2 (Rel-16) Completes the 3GPP IMT 2020 submission (ITU-R) and addresses all identified use cases & requirements...
- Release 17 brings enhancements to 5G
- Release 18 is also known as “5G-Advanced”



Timeline



Three stage approach / SA4



time ↓

Stage 1

Requirements: Overall service description from the user's standpoint.



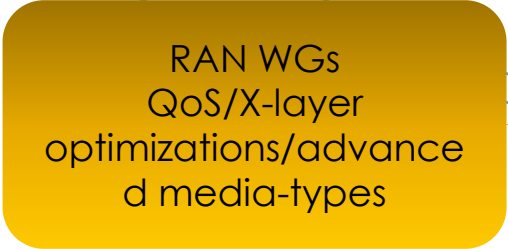
Stage 2

Architecture: Overall description of the organization of the network functions to map service requirements into network capabilities.



Stage 3

Protocols: The definition of switching and signalling capabilities needed to support services defined in Stage 1.



3GPP SA WG4 (**SA4**) is responsible for the specification of codecs for speech, audio, video, graphics and other media types related to traditional and emerging media services such as extended reality (XR) and online gaming, as well as the system and delivery aspects of such content.

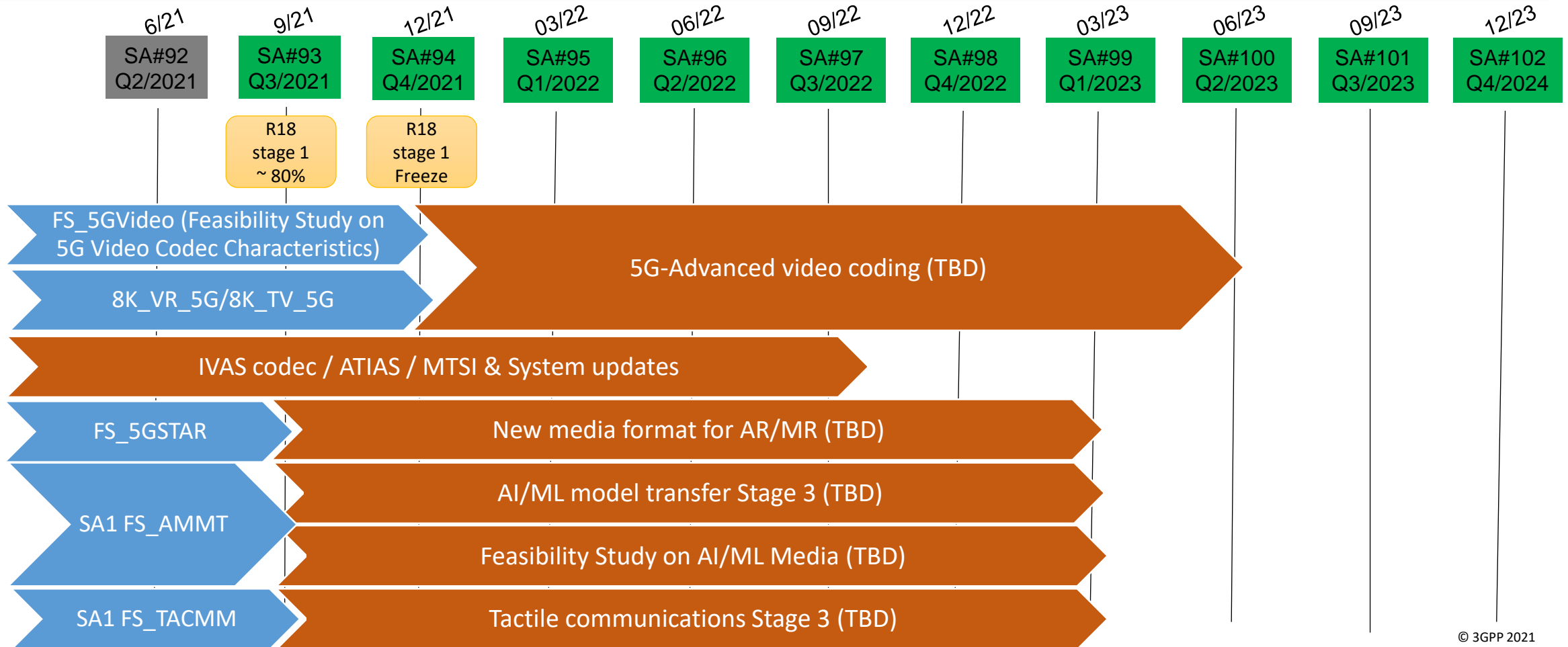
SA4 specifies the content formats and delivery protocols as well as associated quality assessments, metrics and requirements for a broad range of scenarios, and the use of artificial intelligence and machine learning models for multimedia.

SA4 Rel-18 Workshop (17th August)

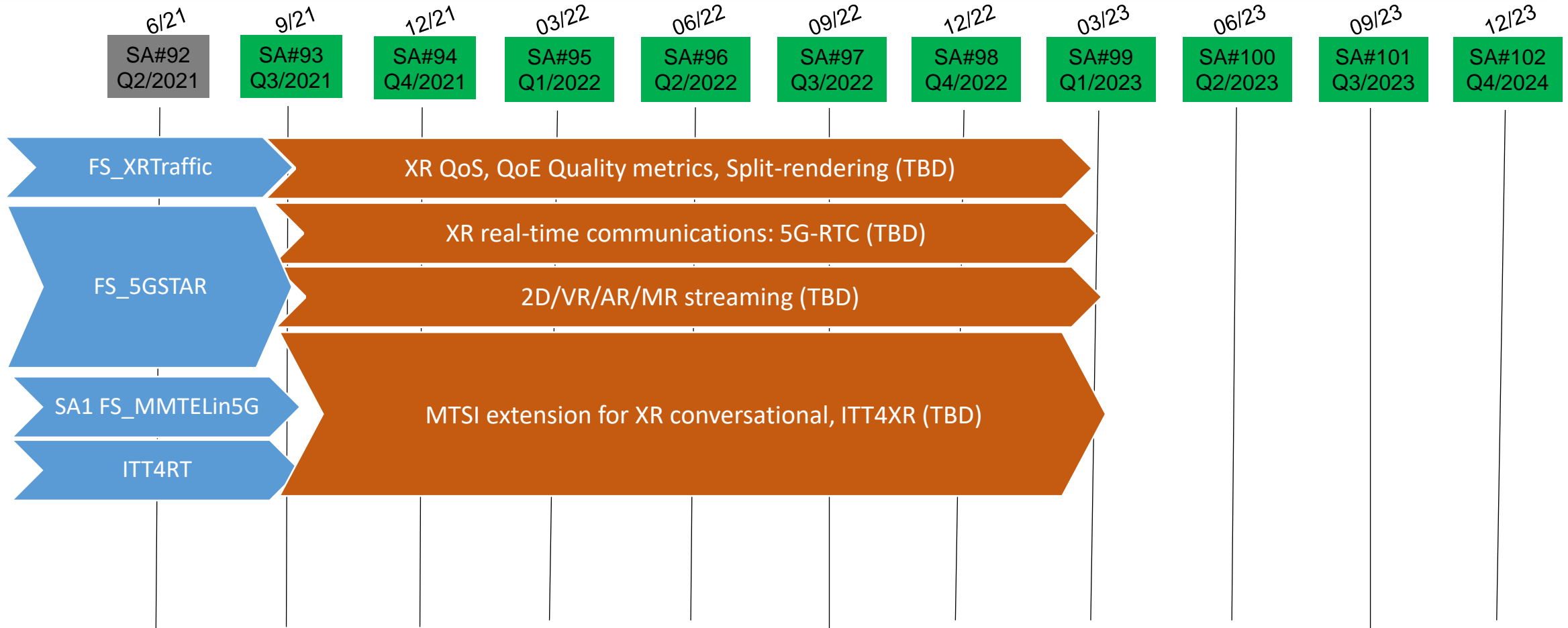


- **New Immersive media types and formats definition**
 - 5G video codec & IVAS codec (including ATIAS, Multimedia telephony/MTSI/System support)
 - New media including AR/MR media and sensory input (e.g. Haptics)
 - QoE metrics for these new media types
 - AI-based media enhancements
- **XR (AR/VR/MR and Cloud Gaming) Services**
 - Desire for a unified framework to support all such new services on 5G Core/RAN/UE
 - Should enable collaboration between MNOs and third-party service providers, support OTT services in 5G, follow 5G Media streaming example
 - Unified framework proposed: 5G-RTC architecture
 - For conversational service, consider MTSI extension (DC-MTSI)
- **Media Distribution enhancements**
 - Universal Access / Free to Air
 - Hybrid/Unicast/Broadcast/Multicast media delivery improvements as appropriate
 - Enhancing quality of traditional media (e.g. 2D video with UHD HDR, 8K)
 - Media handling of Personal IoT networks
- **Support Architecture evolutions**
 - Uplink enhancements : A/V Production, Media Contribution
 - Edge Compute: split rendering, network-based media processing
- **Approaches for Rel-18**
 - Focus on 5GMS adoption and stability
 - Establish a consistent Rel-18 plan to address 5G-Advanced service requirements
 - Make sure we focus on commercially relevant features
 - Provide implementation support: Tooling/Software/Interop
 - Leverage deployed multimedia technologies
 - Proposal under discussion to define a Service Media Enabler framework

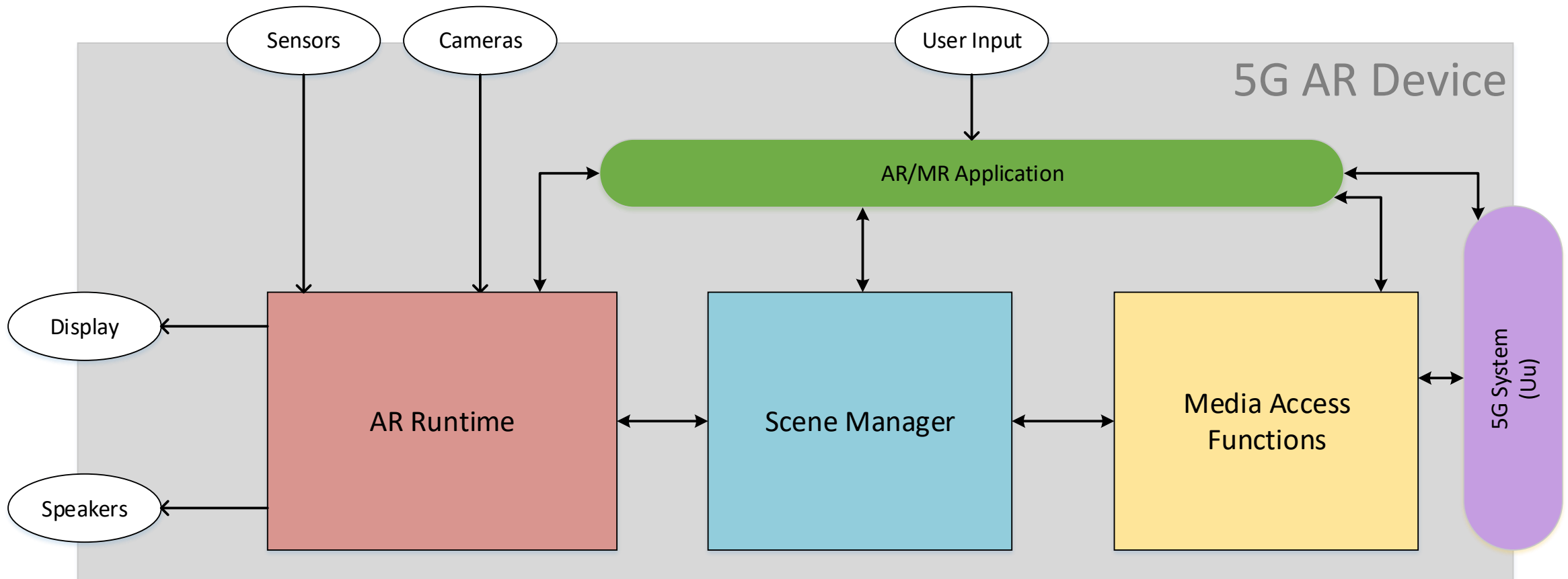
New Immersive media types and formats definition



XR (AR/VR/MR and Cloud Gaming) Services



5G AR device functions

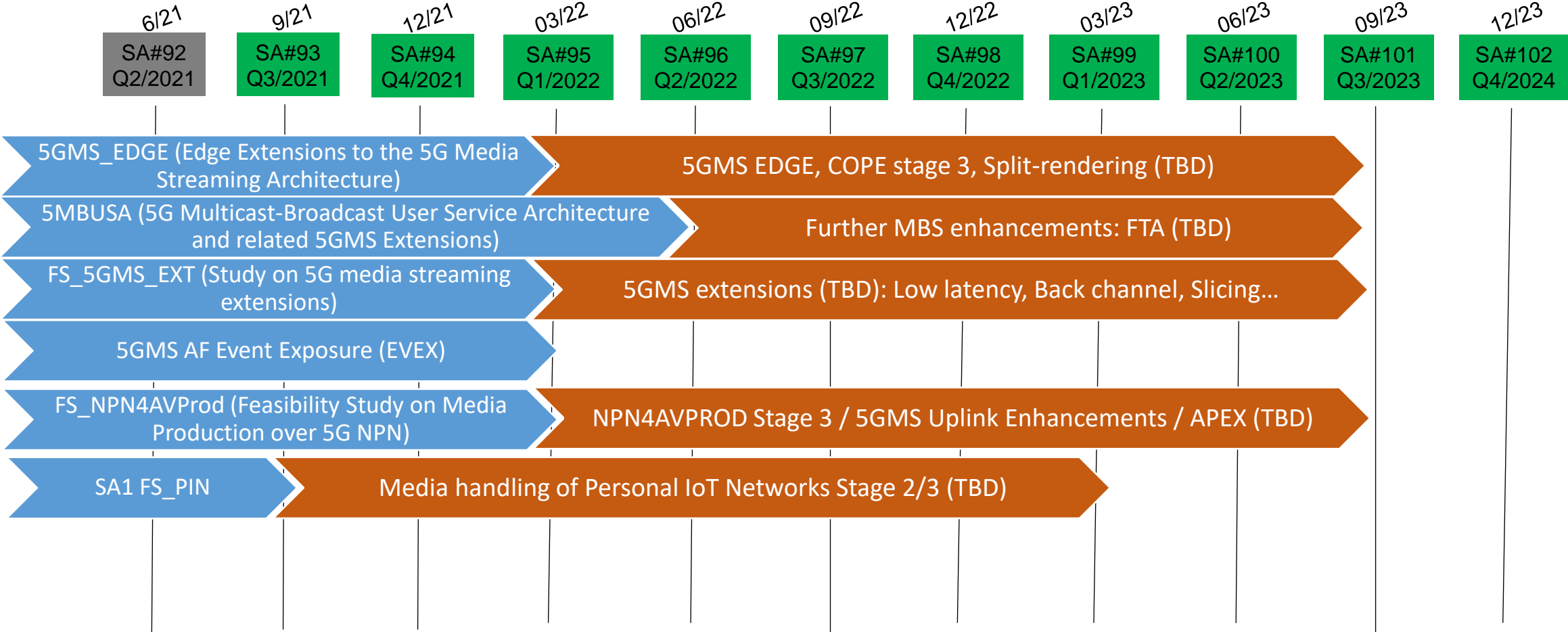


Joint Workshop: Streamed Media in Immersive Scene Descriptions

Zoom Webinar,
September 29 and 30, 2021
Details at <http://mpeg-sd.org>



Media distribution enhancement & Architecture evolution



Thank You!



Next steps

- 2nd SA4 Rel-18 workshop (tentative: 3rd Nov. 2021)
 - For collecting more inputs
 - For adding details of identified items
 - Identify the priorities as a result
- 60% agreed Rel-18 plan at SA4#116-e (Nov. 2021)
- 100% agreed Rel-18 plan at SA4#117-e (Feb. 2022)

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