3GPP TSG SA WG 4 Meeting 108-e TDoc S4-20XXXX

Electronic Meeting 6th – 9th April 2020

**Title: DRAFT LS on Extended Reality**

**Response to: LS S4-200303 on Extended Reality (XR) from SC 29/WG 11 (MPEG)**

**Release: 16**

**Work Item: Study on eXtended Reality (XR) in 5G (FS\_5GXR)**

**Source: 3GPP SA WG4**

**To: ISO/IEC JTC1/SC29/WG 11 (MPEG)**

**Cc:**

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**Send any reply LS to: 3GPP Liaisons Coordinator,** [**mailto:3GPPLiaison@etsi.org**](mailto:3GPPLiaison@etsi.org)

**Attachments:** TR 26.928 v16.0.0 http://www.3gpp.org/ftp//Specs/archive/26\_series/26.928/26928-g00.zip

# 1 Overall description

3GPP SA4 would like to thank MPEG for the LS informing about its interest in media services over 5G, particularly on Extended Reality (XR).

Since the MPEG review of the 3GPP TR.928 in January 2020, 3GPP SA4 has finalized the study on extended reality over 5G as part of the release 16 effort. The final version of the technical report is provided in the attachment. The technical report contains a detailed description of XR covering various aspects such as Quality of experience, delivery, compression technologies, rendering, formats… The technical report has a large collection of use cases that have been analysed and categorized into a limited set of scenarios. For each of them, potential standardization areas have been identified and listed.

Consequently, in parallel of the ongoing works on ITT4RT and IVAS, additional studies have been triggered to focus on specific aspects of XR:

* ***FS\_XRTraffic*** is a study intending to collect and document traffic characteristics (such as bitrate, round trip time…) for XR services and cloud gaming
* ***FS\_EMSA*** is a study focusing on the processes for handling media processing workflows using edge processing and analysing the mapping to the 5G Media Streaming architecture.

Those standardization efforts do not attempt to address any particular XR use case as a fully defined service/application specification, but are more aimed at defining the technical enablers for such XR services on top of 5G networks and devices.

With regards to the particular aspects of interest of MPEG, 3GPP SA4 would like to point to the details provided in the TR 26.928.

1. Storing and sharing spatial information (e.g., what type of spatial indoor spatial information).

The concept of indoor spatial information storage and sharing has been introduced in the use case A.21 “AR Streaming with Localization Registry”. Such information is referred to as visual features for a space to be registered combined with localization algorithms such as SLAM, including assigning properties to surfaces in particular (e.g. for displaying a video media on a wall).

The spatial mapping and localization methods are described in clause 4.1.4 of the technical report.

1. Biometrics and emotion metadata definition and transport (e.g., which biometric data would be considered by your streaming use case).

Biometrics and emotion metadata have been first considered in the use case A.5 “Emotional Streaming” as part of the more general *XR multimedia streaming* scenario defined in clause 5.4. Hyper-sensorial data and XR haptics necessary for implementing such a use case are also mentioned for mission critical scenarios (in use case A.10). Unfortunately, 3GPP SA4 is missing expertise in the capture of biometrics and emotion data, and no format for describing and conveying such information has been identified yet.

# 2 Actions

**To MPEG**

**ACTION:** 3GPP SA4 kindly asks MPEG to take the above information into account. 3GPP SA4 would highly appreciate to be informed of any work happening in MPEG focusing on 5G and would be happy to coordinate on such efforts.

# 3 Dates of next TSG SA WG 4 meetings

SA4#109-e 25th May 2020 – 29th May 2020 Electronic meeting

SA4#110 24th Aug. 2020 – 28th Aug. 2020 US