

ANNEX 4

Industry Specification Group 'Augmented Reality Framework' (ISG ARF)

Terms of Reference

(Approved by the ETSI Director-General on **21 September 2017** following ETSI Board consultation)

1. Scope

The purpose of the ISG ARF is to define a framework for the interoperability of Augmented Reality applications and services. The AR framework will define an overall high-level architecture, identify key components and interfaces. The development of such framework will allow components from different providers to interoperate through the defined interfaces. This will in turn avoid the creation of vertical siloes and market fragmentation and enable players in the eco-system to offer part(s) of an overall AR solution.

Through this work, the ISG ARF will address the following goals:

- Ensuring that Augmented Reality services and platforms will be simpler to design, deploy and operate than what exists today.
- Enabling the development of high performance Augmented Reality components which are portable between different hardware vendors, different providers of software solutions and platforms.
- Achieving co-existence of legacy and proprietary platforms whilst enabling an efficient migration path to fully interoperable platforms.

The ISG will acknowledge the work of those relevant standardization bodies and open source communities already developing technical solutions for AR and hopes to build on previous work done in this area, e.g. by collecting use cases developed by the AR community or by including already defined AR components. The ISG will ensure consistency with other activities at ETSI or other relevant standards development organizations with regards to IoT for instance.

2. Planned deliverables and timescales for delivery

The ISG will start the work by analyzing what currently exists in terms of standards initiatives and existing public specifications, agree on a set of use cases and develop a hi-level architecture identifying key components and interfaces then develop interface specifications. It may continue by producing technical requirements where a gap is identified taking into account the need for both open source and proprietary components. These requirements could lead to the development of new technical specifications either by ETSI or by other relevant standards development organisations.

Deliverables and timescales:

- Standards landscape initial white paper documenting state of the art about existing standards initiatives and existing public specifications fulfilling the industry requirements: Group Report at T0 + 6 months
- Use cases description: Group Report at T0 + 12 months
- AR Framework architecture defining interfaces between required components: Group Report or Group Specification (informative or normative) at T0 + 12 months
- Interface specifications: Group Specification at T0 + 18 months
- Requirements for new specification(s) at T0 + 24 months

3. Collaboration with other bodies (both inside and outside ETSI):

The ISG intends to establish a liaison relationship with at least the following ETSI TB(s)/ISG(s)

- oneM2M,
- ETSI TC SmartM2M,
- ETSI TC ITS,
- ETSI EP eHealth,
- ETSI TC SmartBAN,
- ETSI TC SAFETY

- ETSI TC HF (Human Factors)
- ETSI MEC
- 3GPP (5G, AR group)

and others as identified during the progression of the work.

The ISG also intends to cooperate with a number of external organizations including:

- IEEE
- ISO MPEG
- W3C AR Community Group
- ITU-T
- Khronos

and others as identified during the progression of the work.

4. Initial work plan

An initial plan for work includes the following milestones:

- T0: Kick-off-Meeting of the ISG ARF
- T0 + 1 month: Liaisons to major organisations informing of the work and requesting comment/input. Invite participation / membership.
- T0 + 6 months: Standards landscape Initial white paper or report (GR)
- T0 + 12 months: Use case and high level requirements description (GR)
- T0 + 12 months: AR framework architecture (GR)
- T0 + 18 months: Interface specifications (GS)
- T0 + 24 months: Technical requirements (GS) and review of work and proposal to ETSI for next period.

