ETSI GR ARF 004-1 V1.2.1 (2023-02)

GROUP REPORT

**Augmented Reality Framework (ARF);
Interoperability Requirements for AR components,
systems and services;
Part 1: Overview**

Disclaimer

Reference

RGR/ARF-004-1v1.2.1

Keywords

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Foreword

This Group Report (GR) has been produced by ETSI Industry Specification Group (ISG) Augmented Reality Framework (ARF).

The present document is part 1 of a multi-part deliverable covering Interoperability Requirements for AR components, systems and services, as identified below:

ETSI GR ARF 004-1: **"Overview";**

ETSI GS ARF 004-2: "World Storage and AR Authoring functions";

ETSI GS ARF 004-3: "World Capture, World Analysis and Scene Management";

ETSI GS ARF 004-4: "World Analysis, World Storage and Scene Management functions";

ETSI GS ARF 004-5: "External Communications".

The ISG ARF shares the following understanding for Augmented Reality: Augmented Reality (AR) is the ability to mix in real-time spatially-registered digital content with the real world.

Modal verbs terminology

In the present document "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the ETSI Drafting Rules (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

1 Scope

The present document gives an overview of the multi-part deliverable GR/GS ARF 004 covering the interoperability requirements developed for some of the Reference Points specified in ETSI GS ARF 003 [i.1] AR Framework Architecture.

2 References

2.1 Normative references

Normative references are not applicable in the present document.

2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

[i.1] ETSI GS ARF 003 (V1.1.1): "Augmented Reality Framework (ARF) AR framework architecture".

[i.2] ETSI GS ARF 004-2: "Augmented Reality Framework (ARF) Interoperability Requirements for AR components, systems and services; Part 2: World Storage and AR Authoring functions".

[i.3] ETSI GS ARF 004-3: "Augmented Reality Framework (ARF); Interoperability Requirements for AR components, systems and services; Part 3: World Capture, World Analysis and Scene Management".

[i.4] ETSI GS ARF 004-4: "Augmented Reality Framework (ARF); Interoperability Requirements for AR components, systems and services; Part 4: World Analysis, World Storage and Scene Management functions".

[i.5] ETSI GS ARF 004-5: "Augmented Reality Framework (ARF); Interoperability Requirements for AR components, systems and services; Part 5: External Communications".

3 Definition of terms, symbols and abbreviations

3.1 Terms

For the purposes of the present document, the following terms apply:

Reference Point (RP): point located at the interface of two non-overlapping functions and representing interrelated interactions between those functions

3.2 Symbols

Void.

3.3   Abbreviations

For the purposes of the present document, the following abbreviations apply:

AR   Augmented Reality
ISG   Industry Specification Group
RP   Reference Point

4   AR Interoperability Requirements

ETSI GS ARF 003 [i.1] defines a framework for AR components, systems and services. It introduces the characteristics of an AR system and describes the functional building blocks of the AR reference architecture and their mutual relationships. There are eleven logical functions in the AR functional reference architecture defined by ETSI GS ARF 003 [i.1]; each function is composed of two or more subfunctions. The logical functions are connected by Reference Points (RPs). Details for each of the eleven functions and their subfunctions are described in clause 5 of [i.1]. Details of each of the eighteen RPs are described in clause 6 of ETSI GS ARF 003 [i.1].

The present multi-part deliverable reviews the high-level requirements of some of the RPs identified in ETSI GS ARF 003 [i.1] and further specifies the requirements for interoperability of the related functions and subfunctions. Each part of the multi-part deliverable covers one RP or a group of RPs. The different parts of this multi-part deliverable will be developed in the order of priorities as defined by the Industry Specification Group ARF based on the needs for interoperability at this RP and members' interest. At the time of publication, four parts have been developed:

- ETSI GS ARF 004-2 [i.2], covering the World Storage and AR Authoring functions;

- ETSI GS ARF 004-3 [i.3], covering the World Capture, World Analysis and Scene Management functions;

- ETSI GS ARF 004-4 [i.4], covering the World Analysis, World Storage and Scene Management functions; and

- ETSI GS ARF 004-5 [i.5], covering the External Communications functions.

The ISG will publish additional parts describing RPs as prioritized by the group in the future, however not all RPs may be addressed.

History

Document history		
V1.1.1	September 2021	Publication
V1.2.1	February 2023	Publication