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Multimedia systems and equipment for metaverse -
Part 1: General

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IEC TR 63614-1 has been prepared by IEC technical committee 100: Audio, video and multimedia systems and equipment. It is a Technical Report.

The text of this Technical Report is based on the following documents:

Draft	Report on voting
100/4450/DTR	100/4472/RVDTR

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this Technical Report is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in the IEC 63614 series, published under the general title *Multimedia systems and equipment for metaverse*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

– reconfirmed,

– withdrawn, or

– revised.

INTRODUCTION

The term "metaverse" originated from the science fiction novel "Snow Crash", combining "meta" and "universe". It refers to a digital-based virtual world that extends the boundaries of the real world, allowing users to engage in various activities, including imagination and fantasy, within the virtual space. In the viewpoint of content/platform/network/device, the metaverse can also be defined as a technology in which a user (using a metaverse device) can access (through network) a virtual space (a metaverse platform) and experience all activities (metaverse contents) through an avatar.

At the time of writing, the global industrial metaverse market is experiencing significant growth. It is noted that the metaverse can be implemented and realized with multimedia systems and equipment. Accordingly, there is a crucial need of standardization on the subject of metaverse in IEC TC 100 as a leading standardization group in the area of multimedia systems and equipment.

The IEC 63614 series consists of the following parts:

– Part 1: General;

– Part 2: Classification;

– Part 3: Gap analysis; and

– Part 4: AI use case.

This document, IEC 63614-1, describes general considerations to take into account for standardization on multimedia systems and equipment for metaverse.

IEC 63614-2[1] describes the classification of metaverse in terms of C (contents), P (platform), N (network), D (device).

IEC 63614-3 describes the gap analysis for the existing standards on metaverse and the services/products in the metaverse-related industry.

IEC 63614-4[2] describes a survey and analysis on how to use AI technology for metaverse systems and services, including the relevant examples and expected benefits in terms of service providers and users.

[1] Under consideration.

[2] Under consideration.

1 Scope

This document describes general considerations to take into account for standardization on multimedia systems and equipment for metaverse, which include the concept of metaverse and the impacts of metaverse on multimedia systems and equipment.

2 Normative references

There are no normative references in this document.

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

– IEC Electropedia: available at https://www.electropedia.org/

– ISO Online browsing platform: available at https://www.iso.org/obp

NOTE The terms "device" and "equipment" are related to tools or instruments and are used interchangeably, but they have distinct meanings based on IEV. The term "system" is a set of devices or equipment, "metaverse" is a sort of virtual space, and "multimedia" is a set of audio, video, graphics, and data. These terms listed are used in combination with each other.

EXAMPLE Multimedia device, multimedia equipment, multimedia system and metaverse device, metaverse equipment, metaverse system.

3.1.1
device
material element or assembly of such elements intended to perform a required function

EXAMPLE Metaverse device.

Note 1 to entry: A device may form part of a larger device.

[SOURCE: IEC 60050-151:2001, 151-11-20]

3.1.2
equipment
single apparatus or set of devices or apparatuses, or the set of main devices of an installation, or all devices necessary to perform a specific task

EXAMPLE Multimedia equipment.

Note 1 to entry: Examples of equipment are a power transformer, the equipment of a substation, measuring equipment.

[SOURCE: [IEC 60050-151:2001, 151-11-25, modified – Example has been added.]