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Multimedia systems and equipment for metaverse -
Part 2: Classification

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Multimedia systems and equipment for metaverse - Part 2: Classification

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IEC TS 63614-2 has been prepared by IEC technical committee 100: Audio, video and multimedia systems and equipment. It is a Technical Specification.

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

Draft	Report on voting
100/4485/DTS	100/4516/RVDTS

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 Specification 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– withdrawn, or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" [1], 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. From the viewpoint of content, platform, network, or device, the metaverse can also be defined as a technology in which a user (using a metaverse device) can access (through a 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 for standardization on the subject of metaverse in IEC Technical Committee 100 as a leading standardization group in the area of multimedia systems and equipment.

IEC Technical Committee 100 prepares International Standards and other deliverables in the field of audio, video and multimedia systems and equipment. These publications mainly include specification of the performance, methods of measurement for consumer and professional equipment and their application in systems and its interoperability with other systems or 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

IEC 63614-1:2026 describes general considerations to be taken for standardization on multimedia systems and equipment for metaverse.

IEC TS 63614-2 (this document) describes the classification of metaverse in terms of C (contents), P (platform), N (network), D (device).

IEC 63614-3:2026 describes the gap analysis for the existing standards on metaverse and the services/products in the metaverse-related industry.

IEC 63614-4[1] 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.

1 Scope

This document describes the classifications and challenging technical issues to consider for standardization of multimedia systems and equipment for metaverse in the perspectives of content, platform, network, and device.

2 Normative references

There are no normative references in this document.

3 Terms, definitions, and abbreviated terms

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

3.1 Terms and definitions

3.1.1
metaverse
virtual space or space that combines the virtual and the real, organized to enable various social, economic, and cultural activities based on technology that extends the user's five senses into virtual space or blends virtual space with real space to enable interaction between humans and digital information

Note 1 to entry: ISO/IEC JTC 1/SC 24 (in accordance with ISO/IEC DIS 24931-1, Information technology - Metaverse – Part 1: Concepts, characteristics and terminology [2], the term "metaverse" can be described an infinite and persistent set of computer-generated virtual worlds that may be accessed via a human computer interface. It is controlled by the creator's imagination, society, human computer interfaces, computer code and graphics. It can be accessed simultaneously by many people, agents, or machines).

3.1.2
artificial intelligence
AI
<discipline> branch of computer science devoted to developing data processing systems that perform functions normally associated with human intelligence, such as reasoning and learning

[SOURCE: IEC 60050-171:2019, 171-09-16]

3.1.3
artificial intelligence
AI
<capability> capability of a functional unit to perform functions that are generally associated with human intelligence, such as reasoning and learning

[SOURCE: IEC 60050-171:2019, 171-09-17]