

# TECHNICAL REPORT

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**Multimedia systems and equipment for metaverse -  
Part 3: Gap analysis**



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## CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references .....	7
3 Terms and definitions .....	7
3.1 Terms and definitions.....	7
3.2 Abbreviated terms.....	7
4 Analysis of existing standards on metaverse systems and equipment.....	8
4.1 Consideration for analysis.....	8
4.1.1 General .....	8
4.1.2 Content .....	8
4.1.3 Platform.....	9
4.1.4 Network.....	9
4.1.5 Device .....	9
4.1.6 Standard Development Organizations (SDOs) for analysis.....	9
4.2 Content.....	10
4.2.1 International Organization for Standardization (ISO).....	10
4.2.2 ISO/IEC Joint Technical Committee (JTC) 1 .....	11
4.2.3 International Telecommunication Union, Telecommunication Standardization Sector (ITU-T) .....	14
4.2.4 Institute of Electrical and Electronics Engineers, IEEE Standards Association (IEEE SA) .....	15
4.3 Platform .....	17
4.3.1 ISO/IEC JTC 1.....	17
4.3.2 ITU-T.....	18
4.4 Network .....	19
4.4.1 General .....	19
4.4.2 ISO.....	20
4.4.3 ITU-T.....	21
4.4.4 IEEE SA .....	21
4.4.5 Internet engineering task force (IETF) .....	22
4.5 Device .....	23
4.5.1 International Electrotechnical Commission (IEC).....	23
4.5.2 ISO.....	24
4.5.3 ISO/IEC JTC 1.....	25
4.5.4 ITU-T.....	27
4.5.5 IEEE SA .....	27
4.6 General.....	27
4.6.1 ITU-T.....	27
4.6.2 IEEE SA .....	28
4.7 Summary .....	29
5 Analysis of metaverse services/platform in industry .....	30
5.1 Functional features for analysis of metaverse platforms .....	30
5.2 Service type.....	31
5.2.1 Game .....	31
5.2.2 Social media and lifelogging .....	31

5.2.3	Customer support services .....	31
5.2.4	Education and counselling .....	32
5.2.5	Workspace and collaboration .....	32
5.3	Immersive .....	32
5.3.1	General .....	32
5.3.2	eXtended reality (XR) .....	33
5.3.3	Augmented reality (AR) .....	33
5.3.4	Mixed reality (MR) .....	33
5.3.5	Virtual reality (VR) .....	34
5.3.6	Binaural audio .....	34
5.4	Interoperability .....	34
5.4.1	General .....	34
5.4.2	Video coding and modelling .....	34
5.4.3	Open API .....	35
5.4.4	Software development kit (SDK) .....	35
5.4.5	Blockchain/NFT .....	35
5.5	Asset management .....	35
5.5.1	Asset creating tools .....	35
5.5.2	Asset trading system .....	36
5.6	Analysis and comparison .....	36
6	Work items for standardization in IEC Technical Committee 100 .....	37
6.1	Observations .....	37
6.2	Candidate work items for standardization .....	40
	Bibliography .....	42
	Figure 1 – Classification of standards on metaverse by many SDOs .....	10
	Figure 2 – Categorized metaverse standards based on CPND .....	29
	Table 1 – Metaverse Content classification standards developed by ISO .....	11
	Table 2 – Metaverse Content classification standards developed by JTC1 .....	13
	Table 3 – ITU-T FG-MV structure .....	14
	Table 4 – Metaverse Content classification standards developed by ITU-T .....	15
	Table 5 – Metaverse Content classification standards developed by IEEE SA .....	16
	Table 6 – Metaverse Platform classification standards developed by JTC 1 .....	18
	Table 7 – Metaverse Platform classification standards developed by ITU-T .....	19
	Table 8 – Metaverse Network classification standards developed by ISO .....	20
	Table 9 – Metaverse Network classification standards developed by ITU-T .....	21
	Table 10 – Metaverse Network classification standards developed by IEEE SA .....	21
	Table 11 – Metaverse Network classification standards developed by IETF .....	22
	Table 12 – Metaverse Device classification standards developed by IEC .....	24
	Table 13 – Metaverse Device classification standards developed by ISO .....	25
	Table 14 – Metaverse Device classification standards developed by JTC 1 .....	26
	Table 15 – Metaverse Device classification standards developed by ITU-T .....	27
	Table 16 – Metaverse Device classification standards developed by IEEE SA .....	27
	Table 17 – Metaverse General classification standards developed by ITU-T .....	28

Table 18 – Metaverse General classification standards developed by IEEE SA.....	29
Table 19 – Summary of distinctive feature of metaverse .....	31
Table 20 – Existing metaverse platforms categorized according to distinctive features .....	37
Table 21 – Status of metaverse standards development within IEC TC 100 Working Groups.....	38
Table 22 – Work items for standardization in IEC TC 100 .....	40

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## Multimedia systems and equipment for metaverse - Part 3: Gap analysis

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

Draft	Report on voting
100/4408/DTR	100/4437/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.

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.

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](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/publications](http://www.iec.ch/publications).

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## 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 for 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; and
- Part 3: Gap analysis.

IEC TR 63614-1<sup>1</sup> describes general considerations to be taken for standardization on multimedia systems and equipment for metaverse.

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

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

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<sup>1</sup> Under preparation. Stage at time of publication: IEC DTR 63614-1:2025

<sup>2</sup> Under consideration.

## 1 Scope

This document describes the gap analysis for metaverse systems and equipment, including examination of existing standards and services/applications within the metaverse domain. The analysis includes a comprehensive review of developments in various Standards Development Organizations (SDOs) and the relevant industry.

## 2 Normative references

There are no normative references in this document.

## 3 Terms and definitions

No terms and definitions are listed in this document.

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

No terms and definitions are listed in this document.

### 3.2 Abbreviated terms

AI	Artificial intelligence
AR	Augmented reality
API	Application programming interface
CPND	Content, Platform, Network, Device
DLT	Distributed ledger technology
gITF	Graphics Library Transmission format
HMD	Head-mounted display
ICT	Information and communication technology
IIDL	Interaction Information Description Language
IoT	Internet of Things
LAE	Live actor and entity
MAR	Mixed and augmented reality
MMORPG	Massively multiplayer online role-playing games
MR	Mixed reality
MTP	Motion to photon
NFT	Non-fungible token
NPC	Non-player character
OME	Object management entity
QoE	Quality of experience
SDK	Software development kit
SDO	Standard Development Organization
UI/UX	User interface/User experience