



# Committee Document

**IEC/ISO JSEG 15/WS  
1 N2**

## **Metaverse Workstream 1 — Final report**

*Metaverse Workstream 1 — Rapport final*

**Edition 0.2  
2024-08**



**COPYRIGHT PROTECTED DOCUMENT**

© ISO/IEC 2024

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

<b>Contents</b>		Page
<b>Foreword</b> .....		<b>iv</b>
<b>Introduction</b> .....		<b>v</b>
<b>1</b>	<b>Scope</b> .....	<b>1</b>
<b>2</b>	<b>Normative references</b> .....	<b>1</b>
<b>3</b>	<b>Terms and definitions</b> .....	<b>1</b>
<b>4</b>	<b>Work organization</b> .....	<b>1</b>
4.1	Background.....	1
4.2	Deliverables.....	1
<b>5</b>	<b>Deliverable: definition of the “Metaverse”</b> .....	<b>1</b>
5.1	General.....	1
5.2	Approach.....	1
5.3	Background.....	1
5.4	Considerations.....	2
<b>6</b>	<b>Deliverable: Metaverse terminology</b> .....	<b>2</b>
6.1	Purpose.....	2
6.2	Methodology.....	3
6.3	Sources investigated.....	3
6.4	Results.....	3
<b>7</b>	<b>Recommendations</b> .....	<b>3</b>
7.1	General.....	3
<b>Bibliography</b> .....		<b>4</b>

## Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives))

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)) or the IEC list of patent declarations received (see <https://patents.iec.ch>).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html). In the IEC, see [www.iec.ch/understanding-standards](http://www.iec.ch/understanding-standards).

This document was prepared by ISO/IEC JSEG 15, *Metaverse*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html) and [www.iec.ch/national-committees](http://www.iec.ch/national-committees).

## Introduction

This document is the final report of IEC/ISO JSEG 15/WS 1, *Metaverse — Vocabulary*.

This document provides recommendations of WS 1.



# Metaverse Workstream 1 — Final report

## 1 Scope

This document provides recommendations by IEC/ISO JSEG 15/WS 1, *Metaverse — Vocabulary*, to the IEC/ISO ecosystem with regards to the topic of the Metaverse.

## 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:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org>

## 4 Work organization

### 4.1 Background

IEC/ISO JSEG 15/WS 1 was established in 2023 to provide standardized terminology for IEC/ISO TCs in referencing concepts, terms and definitions relating to the Metaverse.

### 4.2 Deliverables

IEC/ISO JSEG 15/WS 1 is tasked to develop the following deliverables:

- Set of concepts, terms and definitions, and their relationships
- Definition of the “Metaverse”
- Final report of WS 1 to provide recommendations to IEC/ISO

## 5 Deliverable: definition of the “Metaverse”

### 5.1 General

The definition of a “metaverse” has long been subject of controversy.

### 5.2 Approach

In order to define any concept, it is necessary to determine the essential characteristics of the concept, where additions or subtractions to these characteristics will no longer define the concept.

### 5.3 Background

The word “metaverse” originated from the science fiction *Snow Crash* written by Neal Stephenson in 1992 [4].

In popular culture, the term “metaverse” is commonly used as a generalized entity beyond the Internet, as a massively multi-player virtual world experienced through immersive technologies with comprehensive sensory integration through human computer interfaces.

The group has considered a few popular definitions of the “metaverse”, including:

- From [1]: “universal, immersive virtual world that is facilitated by virtual reality (VR) and augmented reality (AR)”
- From [2]: persistent and immersive simulated world that is experienced in the first person by large groups of simultaneous users who share a strong sense of mutual presence
- From [3]: an infinite and persistent set of computer-generated virtual worlds that may be accessed via some human computer interface

## 5.4 Considerations

WS 1 has considered various definitions, common perspectives and expectations on the term “metaverse” and has come to the following conclusions based on consensus.

Essential characteristics of the “metaverse” include:

- **virtual**, as in the items in the experience is virtual
- **immersive** where it is experienced through human computer interaction

Common characteristics expected by popular culture include:

- **massively multi-user** where there can be many simultaneous users
- **interconnection** of virtual world systems
- **interoperability** between users across virtual world systems
- **persistent** where actions and events in the virtual world persists after a user leaves
- **real-time** where user actions are performed in real-time

The resulting consensus arrived at this definition for “metaverse”:

metaverse: virtual world experienced through immersive technologies

## 6 Deliverable: Metaverse terminology

### 6.1 Purpose

This deliverable aims to provide a concept system and a standard set of terminology related to the Metaverse, from basic concepts to those of the Metaverse ecosystem.

Questions to be addressed:

- What is a Metaverse or is there only THE metaverse (like THE Internet)?
- Does the Metaverse require human interaction?
- Is there an agreed or proposed definition /definitions?
- What shall it include? What does it not include?
- Is a digital twin a “metaverse” if not why not? Or when is it not?
- What is the minimum set to be classed as a metaverse?



## 6.2 Methodology

IEC/IEC JSEG 15/WS 1 used the following methodology in developing the vocabulary:

- Survey existing terminology
- Reference / import over new creation unless necessary
- Decide on terms and domains to import
- Fill out data: definition, designations, languages, examples, notes

## 6.3 Sources investigated

The sources that are investigated include:

- Metaverse Standards Forum glossary (<https://glossary.metaverse-standards.org/>)
- Open Metaverse Foundation glossary (<https://www.openmv.org/glossary/>)
- IEEE P2874 Spatial Web
- ISO/IEC JTC 1/SC 24 “Metaverse Vocabulary”
- IEC/ISO/JSEG 15/WS 2 “Market and applications report”

## 6.4 Results

The group has developed a set of terms and definitions for the Metaverse ecosystem. The terms are organized in the following categories:

- Metaverse core concepts
- Metaverse use cases
- XR concepts
- Extended metaverse concepts
- Governance

The terms and definitions are provided in a separate document.

# 7 Recommendations

## 7.1 General

The group recommends the following:

- The definition of the “metaverse” should be adopted by IEC/ISO TCs and publications
- The Metaverse terminology provided should be adopted by IEC/ISO TCs

## Bibliography

- [1] ISO/IEC JTC 1. *JTC 1 Standards and Standardization for the Metaverse* [website]. 2023. Available from: <https://jtc1info.org/jtc-1-standards-and-standardization-for-the-metaverse/>. [viewed: September 5, 2024].
- [2] ROSENBERG L.. *Metaverse 101: defining the key components* [website]. VentureBeat. 2022. Available from: <https://venturebeat.com/business/metaverse-101-defining-the-key-components/>. [viewed: September 5, 2024].
- [3] STOTHARD P., RYAN P., & KURATA T.. *Mining Metaverse Taxonomy (NOT YET PUBLISHED)*. n.p.: 2024.
- [4] NEAL STEPHENSON. *Snow crash*. Bantam Books. Available from: [http://openlibrary.org/books/OL14813122M/Snow\\_crash](http://openlibrary.org/books/OL14813122M/Snow_crash).



Price based on 4 pages

© IEC/ISO 2024  
All rights reserved

**iso.org**