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Standard**

ISO/IEC 23090-14

**Information technology — Coded
representation of immersive media —**

**Part 14:
Scene description**

*Technologies de l'information — Représentation codée de média
immersifs —*

Partie 14: Description de scènes

**Second edition
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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.

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This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

This second edition cancels and replaces the first edition (ISO/IEC 23090-14:2023), which has been technically revised. It also incorporates the Amendment ISO/IEC 23090-14/Amd 1:2023.

The main changes are as follows:

- addition of the support of MPEG-I immersive media codecs, AR anchoring, interactivity, avatar, lighting and MPEG-I haptics;
- various minor improvements and corrections.

A list of all parts in the ISO 23090 series can be found on the ISO and IEC websites.

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 and www.iec.ch/national-committees.

Introduction

This document defines the MPEG-I Scene Description. It provides an architecture for the MPEG-I Scene Description, a set of extensions based on ISO/IEC 12113, a set of APIs, and storage formats for scene description documents and scene description updates documents.

Information technology — Coded representation of immersive media —

Part 14: Scene description

IMPORTANT — The electronic file of this document contains colours which are considered to be useful for the correct understanding of the document. Users should therefore consider printing this document using a colour printer.

1 Scope

This document specifies extensions to existing scene description formats in order to support MPEG media, in particular immersive media. MPEG media includes but is not limited to media encoded with MPEG codecs, media stored in MPEG containers, MPEG media and application formats as well as media provided through MPEG delivery mechanisms. Extensions include scene description format syntax and semantics and the processing model when using these extensions by a Presentation Engine. It also defines a media access function (MAF) API for communication between the Presentation Engine and the media access function for these extensions. While the extensions defined in this document can be applicable to other scene description formats, they are provided for ISO/IEC 12113.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 12113, *Information technology — Runtime 3D asset delivery format — Khronos glTF™ 2.0*

ISO/IEC 14496-12, *Information technology — Coding of audio-visual objects — Part 12: ISO base media file format*

ISO/IEC 21778, *Information technology — The JSON data interchange syntax*

IEEE 754-2019, *IEEE Standard for Floating-Point Arithmetic*

IETF RFC 6902, *JavaScript Object Notation (JSON) Patch*

IETF RFC 8259, *The JavaScript Object Notation (JSON) Data Interchange Format*

ISO/IEC 23090-5, *Information technology – Coded Representation of Immersive Media – Part 5: Visual Volumetric Video-based Coding (V3C) and Video-based Point Cloud Compression (V-PCC)*

ISO/IEC 23090-12, *Information technology — Coded representation of immersive media — Part 12: MPEG immersive video*