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**Information technology — Media  
context and control —**

**Part 3:  
Sensory information**

*Technologies de l'information — Contrôle et contexte de supports —  
Partie 3: Information sensorielle*





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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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 ISO documents 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 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 General and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

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

For an explanation on 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 the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

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 fourth edition cancels and replaces the third edition (ISO/IEC 23005-3:2016), which has been technically revised. The main changes compared to the previous edition are as follows:

- Addition of the arrayed light effect.

A list of all parts in the ISO/IEC 23005 series can be found on the ISO website.

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).

## Introduction

The ISO/IEC 23005 series provides an architecture and specifies information representation of data flowing in and out of the real world and virtual worlds.

The data for the real world are communicated through sensors and actuators. The data for virtual worlds consist of properties of virtual objects and multi-sensorial data embedded in audio-visual content. MPEG-V specifies data formats for sensors, actuators, virtual objects, and audio-visual content.

Data captured from the real world could need to be adapted for use in a virtual world and data from virtual worlds could also need to be adapted for use in the real world. This document does not specify how the adaptation is carried out but only specifies the interfaces.

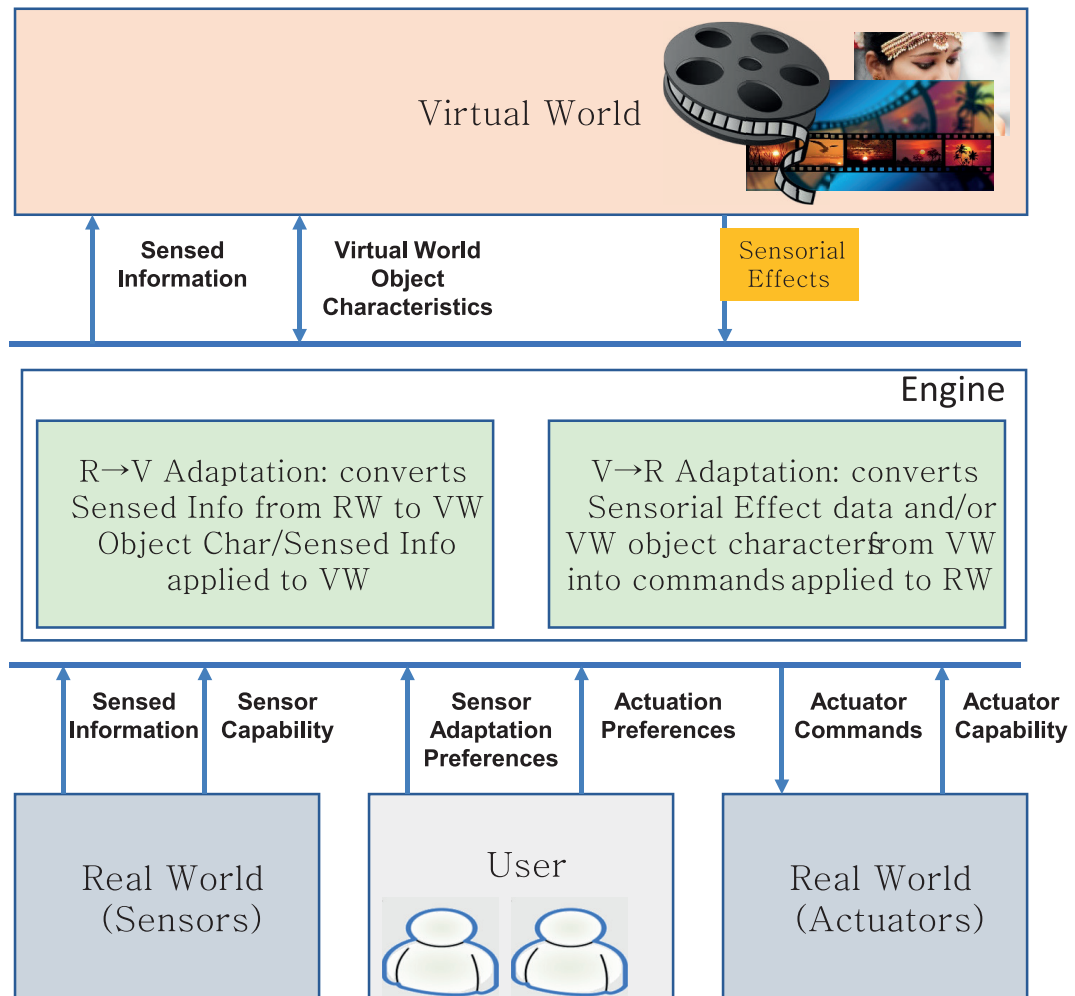
Data for sensors are sensor capabilities, sensed data, and sensor adaptation preferences.

Data for actuators are sensory device capabilities, sensory device commands, and sensory effect preferences.

Data for virtual objects are characteristics of avatars and virtual world objects.

Sensory effect could be needed to enrich audio-visual contents.

The system architecture is depicted in [Figure 1](#) and the scope of this document is highlighted. That is only the information representation that acts as an input to the possible Adaptation VR – as defined in ISO/IEC 23005-1 – is specified in this document.



**Figure 1 — Scope of ISO/IEC 23005-3 marked with a yellow box**

## ISO/IEC 23005-3:2019(E)

NOTE 1 The actual R→V/V→R Adaptation is deliberately informative and left open for industry competition.

NOTE 2 Additional informative information can be found in [Annex A](#).

This document contains the tools of the sensory information which can stimulate other senses than vision or audition, e.g. olfaction, mechanoreception, equilibrioception, or thermoception. That is, in addition to the audio-visual content of, for example, a movie, other senses are also stimulated giving the user the sensation of being part of the particular media and resulting in a worthwhile, informative user experience. This document also illustrates some non-normative examples.

The International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) draw attention to the fact that it is claimed that compliance with this document may involve the use of patents.

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# Information technology — Media context and control —

## Part 3: Sensory information

### 1 Scope

The technologies specified in this document are description languages and vocabularies which describe sensorial effects.

The adaptation engine is not within the scope of this document (or the ISO/IEC 23005 series).

This document specifies syntax and semantics of the tools describing sensory information to enrich audio-visual contents:

- Sensory Effect Description Language (SEDL) as an XML schema-based language which enables one to describe a basic structure of sensory information;
- Sensory Effect Vocabulary (SEV), an XML representation for describing sensorial effects such as light, wind, fog, vibration, etc. that trigger human senses.

### 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 21000-7:2007, *Information technology — Multimedia framework (MPEG-21) — Part 7: Digital Item Adaptation*

ISO/IEC 23005-6:2019, *Information technology — Media context and control — Part 6: Common types and tools*