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ISO 16684-4

# Graphic technology — Extensible metadata platform (XMP) specification —

## Part 4: Use of XMP for semantic units

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# Foreword

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This document was prepared by Technical Committee ISO/TC 171, *Document management applications*, Subcommittee SC 2, *Document file formats, EDMS Systems and authenticity of information.*

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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.

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# Introduction

Traditional concepts and uses of metadata have been applied to describe a file or a collection, but this approach cannot meet the needs of flexible, sub-file and across-file level information exchange and sharing. Researchers, publishers, readers and machines require new approaches to describe content in flexible and multi-faceted ways for data sharing and data exchange (e.g. chapter, figure, image, table, formula). Specifically, in the linked data (either open or closed) web environment, any piece of information can be described, referenced and linked with or without relationships with any other data, objects, and/or files.

By implementing this document, textual and non-textual content can be described, used and shared at an atomic level, file level and across-file level. This information can be used for multiple purposes, including content access, digital preservation, scientific research and publishing. Recent developments in computer vision and machine learning make it possible to create, link and capture semantics from documents, videos and audios. Machines can learn and create meaningful metadata using a variety of artificial intelligence (AI) machine learning models. This enhances existing resources description and creates new opportunities in content generation, content use and content re-use. For instance, the general public benefits from semantic-rich content through enhanced knowledge access, discovery and integration (e.g. see the use cases in the Annex A), while scholars can utilize semantic-rich content for content discovery, integration and scholarly communication. For business, the availability of semantic-rich content creates new opportunities for lower cost, higher productivity, and better user satisfaction. Machines can also utilize semantic-rich content and metadata for a variety of purposes.

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# Graphic technology — Extensible metadata platform (XMP) specification —

# Part 4:
# Use of XMP for semantic units

## 1 Scope

This document:

a) introduces the concept of the semantic unit (SU);

b) provides requirements and guidance on how to define the target resource(s) in an SU by adopting the "target" syntax from the Web Annotation Model;

c) provides requirements and guidance on the extensible metadata platform (XMP) serialization syntaxes for SU.

This document broadens the concept of XMP specified in ISO 16684-1 so that XMP can be used to describe an SU. A new flexible way of defining and describing SUs aims to bring innovation to textual and non-textual content, metadata, linked data, big data and artificial intelligence.

## 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 16684-1:2019, *Graphic technology — Extensible metadata platform (XMP) — Part 1: Data model, serialization and core properties*

ISO 16684-3:2021, *Graphic technology — Extensible metadata platform (XMP) specification — Part 3: JSON-LD serialization of XMP*

Web Annotation Data Model *W3C Recommendation,* 2017, https://www.w3.org/TR/annotation-model/

## 3 Terms and definitions

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:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

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