

Additive manufacturing - General principles - Part 4:  
Overview of data processing (ISO 17296-4:2014)

## EESTI STANDARDI EESSÕNA

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English Version

Additive manufacturing - General principles - Part 4:  
Overview of data processing (ISO 17296-4:2014)

Fabrication additive - Principes généraux - Partie 4:  
Vue d'ensemble des échanges de données (ISO 17296-  
4:2014)

Additive Fertigung - Grundlagen - Teil 4: Überblick  
über Prozesskategorien und Rohmaterialien (ISO  
17296-4:2014)

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## European foreword

The text of ISO 17296-4:2014 has been prepared by Technical Committee ISO/TC 261 “Additive manufacturing” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 17296-4:2016 by Technical Committee CEN/TC 438 “Additive Manufacturing” the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 2017, and conflicting national standards shall be withdrawn at the latest by March 2017.

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### Endorsement notice

The text of ISO 17296-4:2014 has been approved by CEN as EN ISO 17296-4:2016 without any modification.

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## Introduction

Additive manufacturing are an inherent part of the product development process. They are used to manufacture prototypes, tools, and production parts.

In addition to engineering, the scope of this interdisciplinary technology now covers fields ranging from architecture and medicine to archaeology and cartography.

During its somewhat turbulent development, different terms and definitions have emerged which are frequently ambiguous and confusing. Moreover, there are different processes available on the market and it is not always clear what opportunities and limitations they offer in terms of application.

This International Standard aims to offer field-tested recommendations and advice to users (customers) and manufactures (both external and internal service providers), to improve communication between customer and supplier, and to contribute to an authoritative performance design and a smooth handling of the project.

It assumes that the reader has a basic understanding of the process flow of different additive processes. It explains the processes used in practice in only much detail as it necessary to understand the statements.

# Additive manufacturing — General principles —

## Part 4: Overview of data processing

### 1 Scope

This part of ISO 17296 covers the principal considerations which apply to data exchange for additive manufacturing. It specifies terms and definitions which enable information to be exchanged describing geometries or parts such that they can be additively manufactured. The data exchange method outlines file type, data enclosed formatting of such data and what this can be used for.

This part of ISO 17296

- enables a suitable format for data exchange to be specified,
- describes the existing developments for additive manufacturing of 3D geometries,
- outlines existing file formats used as part of the existing developments, and
- enables understanding of necessary features for data exchange for adopters of the International Standard.

This part of ISO 17296 is aimed at users and producers of additive manufacturing processes and associated software systems. It applies wherever additive processes are used, and to the following fields in particular:

- production of additive manufacturing systems and equipment including software;
- software engineers involved in CAD/CAE systems;
- reverse engineering systems developers;
- test bodies wishing to compare requested and actual geometries.

### 2 Normative reference

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 17296-1<sup>1)</sup>, *Additive manufacturing — General principles — Part 1: Terminology*

ASTM F2792-12a, *Standard Terminology for Additive Manufacturing Technologies*

ASTM F2915-11, *Standard Specification for Additive Manufacturing File Format (AMF)*

DIN 66301, *Industrial Automation — Computer Aided Design — Format For The Exchange Of Geometrical Information*

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1) To be published.