



**NSAI**  
Standards

Irish Standard  
I.S. EN ISO 29481-1:2017

# Building information models - Information delivery manual - Part 1: Methodology and format (ISO 29481-1:2016)

**I.S. EN ISO 29481-1:2017**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

*This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):*

*NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.*

*This document is based on:*

EN ISO 29481-1:2017

*Published:*

2017-10-11

*This document was published under the authority of the NSAI and comes into effect on:*

2017-10-29

ICS number:

91.010.01

NOTE: If blank see CEN/CENELEC cover page

NSAI  
1 Swift Square,  
Northwood, Santry  
Dublin 9

T +353 1 807 3800  
F +353 1 807 3838  
E standards@nsai.ie  
W NSAI.ie

Sales:  
T +353 1 857 6730  
F +353 1 857 6729  
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

## National Foreword

I.S. EN ISO 29481-1:2017 is the adopted Irish version of the European Document EN ISO 29481-1:2017, Building information models - Information delivery manual - Part 1: Methodology and format (ISO 29481-1:2016)

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

For relationships with other publications refer to the NSAI web store.

**Compliance with this document does not of itself confer immunity from legal obligations.**

*In line with international standards practice the decimal point is shown as a comma (,) throughout this document.*

This page is intentionally left blank

EUROPEAN STANDARD

**EN ISO 29481-1**

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2017

ICS 91.010.01

English Version

**Building information models - Information delivery  
manual - Part 1: Methodology and format (ISO 29481-  
1:2016)**

Modèles des informations de la construction -  
Protocole d'échange d'informations - Partie 1:  
Méthodologie et format (ISO 29481-1:2016)

Bauwerks-Informations-Modelle - Informations-  
Lieferungs-Handbuch - Teil 1: Methodik und Format  
(ISO 29481-1:2016)

This European Standard was approved by CEN on 24 February 2017.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

<b>Contents</b>	<b>Page</b>
<b>European foreword.....</b>	<b>3</b>

## **European foreword**

The text of ISO 29481-1:2016 has been prepared by Technical Committee ISO/TC 59 “Buildings and civil engineering works” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 29481-1:2017 by Technical Committee CEN/TC 442 “Building Information Modelling (BIM)” the secretariat of which is held by SN.

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 April 2018, and conflicting national standards shall be withdrawn at the latest by April 2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

### **Endorsement notice**

The text of ISO 29481-1:2016 has been approved by CEN as EN ISO 29481-1:2017 without any modification.

This page is intentionally left blank



**INTERNATIONAL  
STANDARD**

**ISO  
29481-1**

Second edition  
2016-05-01

---

---

**Building information models —  
Information delivery manual —**

**Part 1:  
Methodology and format**

*Modèles des informations de la construction — Contrat  
d'interchange —*

*Partie 1: Méthodologie et format*



Reference number  
ISO 29481-1:2016(E)

© ISO 2016

**ISO 29481-1:2016(E)**



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2016, Published in Switzerland

All rights reserved. Unless otherwise specified, 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  
Ch. de Blandonnet 8 • CP 401  
CH-1214 Vernier, Geneva, Switzerland  
Tel. +41 22 749 01 11  
Fax +41 22 749 09 47  
copyright@iso.org  
www.iso.org

# Contents

Page

<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Information delivery manual</b> .....	<b>3</b>
4.1 General.....	3
4.2 Users of this part of ISO 29481.....	3
4.3 Business context.....	4
4.4 Complete schema.....	5
4.5 Breaking a complete schema to support requirements.....	5
4.6 Supporting the building information modelling process.....	5
4.7 Supporting the business process.....	5
4.8 Supporting the software solution.....	6
4.9 Content in the specific IDM.....	6
<b>5 IDM Framework</b> .....	<b>6</b>
5.1 General.....	6
5.2 Basic framework.....	8
5.2.1 General.....	8
5.2.2 IDM component header information.....	8
5.2.3 IDM component overview.....	9
5.3 Interaction map/transaction map.....	9
5.4 Process maps.....	9
5.5 Exchange requirements.....	10
5.5.1 General.....	10
5.5.2 Information units.....	10
5.5.3 Information constraints.....	10
5.6 Technical implementation.....	11
5.6.1 General.....	11
5.6.2 Implementation of metadata.....	11
5.6.3 Interaction framework.....	11
5.6.4 Model view definition (MVD).....	11
<b>Annex A (informative) IDM development process</b> .....	<b>13</b>
<b>Annex B (informative) Examples of simplified IDM components</b> .....	<b>17</b>
<b>Annex C (informative) Reference life cycle stages</b> .....	<b>22</b>
<b>Annex D (informative) IDM use of BPMN methods</b> .....	<b>24</b>
<b>Bibliography</b> .....	<b>29</b>

## ISO 29481-1:2016(E)

### 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 Introduction 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 meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 59, *Buildings and civil engineering works*, Subcommittee SC 13, *Organization of information about construction works*.

This second edition cancels and replaces the first edition (ISO 29481-1:2010), which has been technically revised.

ISO 29481 consists of the following parts, under the general title *Building information models — Information delivery manual*:

- *Part 1: Methodology and format*
- *Part 2: Interaction framework*

## Introduction

This International Standard has undergone a major review in the light of refined approaches to the development of information delivery manuals and their technical implementation in software readable forms. It is important to note that these changes do not render existing information delivery manuals (IDM) invalid.

Building information modelling provides a digital technology for describing and displaying information required in the planning, design, construction and operation of constructed facilities. Increasingly, this modelling approach is expanding to encompass all aspects of the built environment, including civil infrastructure, utilities and public space. These are collectively referred to as construction processes. This approach to managing information brings together the diverse sets of information used during the life cycle of the built environment into a common information environment, reducing, and often eliminating the need for the many types of paper documentation currently in use.

This approach is commonly referred to as building information modelling (BIM; reflecting its initial application in the architectural domain), while the same acronym is used to refer to the product of the process, the information model itself, or building information model (BIM).

Though the focus of construction processes described above is on the physical fabric of the built environment, BIM technology can also benefit the processes associated with managing the use of space within buildings, urban neighbourhoods and cities at the broader scale, as well as infrastructure networks and facilities. These are referred to here as use cases.

An IDM provides help in getting the full benefit from a BIM. If the required information is available in the BIM to support a construction process or use case, and the quality of information is satisfactory, then the process itself will be greatly improved.

For this to happen, there needs to be a common understanding of the processes involved across the entire life cycle development of a built environment project, including the information that is required for and results from the execution of that process. This applies to any activity that results in an exchange of information and may not relate directly to a BIM, e.g. the process to arrive at a work plan or contractual agreement.

This part of ISO 29481 sets out a methodology for the provision of an integrated reference document that describes the processes and data required in the development or management of a constructed facility. It describes how to identify and describe the processes undertaken within that context, the information required for their execution and the results. This part of ISO 29481 also describes in general terms how this information can be further detailed to support solutions provided by software developers, enabling its reuse, and configured to meet national, local and project needs.

In summary, this part of ISO 29481 provides a basis for reliable information exchange/sharing for users so that they can be confident that the information they are receiving is accurate and sufficient for the activities they need to perform. The development of this part of ISO 29481 has been driven by the need of users for reliability in information exchange.



# Building information models — Information delivery manual —

## Part 1: Methodology and format

### 1 Scope

This part of ISO 29481 specifies

- a methodology that links the business processes undertaken during the construction of built facilities with the specification of information that is required by these processes, and
- a way to map and describe the information processes across the life cycle of construction works.

This part of ISO 29481 is intended to facilitate interoperability between software applications used during all stages of the life cycle of construction works, including briefing, design, documentation, construction, operation and maintenance, and demolition. It promotes digital collaboration between actors in the construction process and provides a basis for accurate, reliable, repeatable and high-quality information exchange.

### 2 Normative references

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 6707-1, *Buildings and civil engineering works — Vocabulary — Part 1: General terms*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 6707-1 and the following apply.

#### 3.1 actor

person, organization or organizational unit (such as a department, team, etc.) involved in a construction process

#### 3.2 building information modelling BIM

use of a shared digital representation of a built object (including buildings, bridges, roads, process plants, etc.) to facilitate design, construction and operation processes to form a reliable basis for decisions

Note 1 to entry: The acronym BIM also stands for the shared digital representation of the physical and functional characteristics of any construction works.

#### 3.3 BIM software application

software application that is used to create, modify, analyze, manage, publish, share, expire, or otherwise manipulate elements of a BIM

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

- 
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
  - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-