Building information models—Information delivery manual

Part 1: Methodology and format

AS ISO 29481.1:2018

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Australian Building Codes Board
Australian Institute of Architects
Australian Institute of Building
Australian Institute of Building Surveyors
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Preface

This Standard was prepared by the Standards Australia Committee BD-104, Building Information Modelling.

The objective of this Standard is to specify:

(a) 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

(b) a way to map and describe the information processes across the life cycle of construction works.

This Standard is identical with, and has been reproduced from, ISO 29481-1:2016, *Building information models — Information delivery manual — Part 1: Methodology and format*.

As this document has been reproduced from an International Standard, the following applies:

(i) In the source text "this part of ISO 29481" should read "this Australian Standard".

(ii) A full point substitutes for a comma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

The terms "normative" and "informative" are used in Standards to define the application of the appendices or annexes to which they apply. A "normative" appendix or annex is an integral part of a Standard, whereas an "informative" appendix or annex is only for information and guidance.

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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).

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).

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.

Australian Standard®

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

3.4
business requirement
requirement that describes in business terms what needs to be delivered or accomplished