



BSI Standards Publication

**Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) - Information management using building information modelling**

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Part 1: Concepts and principles

## National foreword

This British Standard is the UK implementation of EN ISO 19650-1:2018. Together with BS EN ISO 19650-2:2018, it supersedes BS 1192:2007+A2:2016 and PAS 1192-2:2013, which are withdrawn.

The UK participation in its preparation was entrusted to Technical Committee B/555, Construction design, modelling and data exchange.

A list of organizations represented on this committee can be obtained on request to its secretary.

### Equivalent UK terms for terms used in ISO 19650

Term (within ISO 19650)	UK equivalent(s)/explanation
appointed party	supplier
appointing party	client (project), asset owner/operator (asset)
appointment	contract, professional services agreement
exchange information requirements	employer's information requirements
federation strategy <i>or</i> information container breakdown structure	volume strategy (identifying separately produced information deliverables brought together for review, for issue or for storage)
level of information need	level of definition (as the aggregate of level of detail and level of information)

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

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### Compliance with a British Standard cannot confer immunity from legal obligations.

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**Organization and digitization of information about  
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information modelling (BIM) - Information management  
using building information modelling - Part 1: Concepts  
and principles (ISO 19650-1:2018)**

Organisation et numérisation des informations  
relatives aux bâtiments et ouvrages de génie civil, y  
compris modélisation des informations de la  
construction (BIM) - 1 Gestion de l'information par la  
modélisation des informations de la construction -  
Partie 1: Concepts et principes (ISO 19650-1:2018)

Organisation von Daten zu Bauwerken -  
Informationsmanagement mit BIM - Teil 1: Konzepte  
und Grundsätze (ISO 19650-1:2018)

This European Standard was approved by CEN on 24 August 2018.

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.

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

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

## European foreword

This document (EN ISO 19650-1:2018) has been prepared by Technical Committee ISO/TC 59 "Buildings and civil engineering works" in collaboration with 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 June 2019, and conflicting national standards shall be withdrawn at the latest by June 2019.

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 19650-1:2018 has been approved by CEN as EN ISO 19650-1:2018 without any modification.

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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 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 of 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 [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 59, *Buildings and civil engineering works*, SC 13, *Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM)*.

A list of all parts in the ISO 19650 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

This document sets out the recommended concepts and principles for business processes across the built environment sector in support of the management and production of information during the life cycle of built assets (referred to as “information management”) when using building information modelling (BIM). These processes can deliver beneficial business outcomes to asset owners/operators, clients, their supply chains and those involved in project funding including increase of opportunity, reduction of risk and reduction of cost through the production and use of asset and project information models. In this document, the verbal form “should” is used to indicate a recommendation.

This document is primarily intended for use by:

- those involved in the procurement, design, construction and/or commissioning of built assets; and
- those involved in delivering asset management activities, including operations and maintenance.

This document is applicable to built assets and construction projects of all sizes and all levels of complexity. This includes large estates, infrastructure networks, individual buildings and pieces of infrastructure and the projects or sets of projects that deliver them. However, the concepts and principles included in this document should be applied in a way that is proportionate and appropriate to the scale and complexity of the asset or project. This is particularly the case where small and medium-sized enterprises are mainly appointed for asset management or project delivery. It is also important that procurement and mobilization of asset or project appointed parties should be integrated as far as possible with existing processes for technical procurement and mobilization.

The concepts and principles contained in this document are aimed at all those involved in the asset life cycle. This includes, but is not limited to, the asset owner/operator, the client, the asset manager, the design team, the construction team, an equipment manufacturer, a technical specialist, a regulatory authority, an investor, an insurer and an end-user.

The specific requirements for information management during the delivery of built assets are provided in ISO 19650-2. These are based on the concepts and principles within this document, but on its own this document includes no obligation to apply ISO 19650-2 or any other part of the ISO 19650 series to be published.

There are many different ways that asset owners/operators or clients can best meet their particular requirements or respond to their national contexts. This includes procurement routes and appointment arrangements. The concepts and principles for information management described in this document should be adopted and applied in accordance with the specific circumstances and requirements of the asset management or project delivery activities. The information requirements should specify or guide how this will be achieved and the details should be agreed in time for the requirements to be delivered efficiently and effectively.

Collaboration between the participants involved in construction projects and in asset management is pivotal to the efficient delivery and operation of assets. Organizations are increasingly working in new collaborative environments to achieve higher levels of quality and greater re-use of existing knowledge and experience. A significant outcome of these collaborative environments is the potential to communicate, re-use and share information efficiently, and to reduce the risk of loss, contradiction or misinterpretation.

True collaborative working requires mutual understanding and trust and a deeper level of standardized process than has typically been experienced, if the information is to be produced and made available in a consistent timely manner. Information requirements need to pass along supply chains to the point where information can be most efficiently produced, and information needs to be collated as it is passed back. At present, considerable resources are spent on making corrections to unstructured information or incorrect management of information by untrained personnel, on solving problems arising from uncoordinated efforts of delivery teams, and on solving problems related to information reuse and reproduction. These delays can be reduced if the concepts and principles within this document are adopted.



To improve future editions of the ISO 19650 series, national asset owners, public clients and authorities are recommended to gather information and experiences about its implementation and use.

The ISO 19650 series can benefit from a formal process for managing assets, for example as in the ISO 55000 series. The ISO 19650 series can also benefit from a systematic approach to quality within an organization, for example as in ISO 9001, although certification to ISO 9001 is not a requirement of the ISO 19650 series. Other standards that relate to information structures and delivery methods are also listed in the Bibliography.



# Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) — Information management using building information modelling —

## Part 1: Concepts and principles

### 1 Scope

This document outlines the concepts and principles for information management at a stage of maturity described as “building information modelling (BIM) according to the ISO 19650 series”.

This document provides recommendations for a framework to manage information including exchanging, recording, versioning and organizing for all actors.

This document is applicable to the whole life cycle of any built asset, including strategic planning, initial design, engineering, development, documentation and construction, day-to-day operation, maintenance, refurbishment, repair and end-of-life.

This document can be adapted to assets or projects of any scale and complexity, so as not to hamper the flexibility and versatility that characterize the large range of potential procurement strategies and so as to address the cost of implementing this document.

### 2 Normative references

There are no normative references in this document.

### 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

#### 3.1 General terms

##### 3.1.1

##### **responsibility matrix**

chart that describes the participation by various functions in completing tasks or deliverables

Note 1 to entry: A responsibility matrix can indicate accountability, consultation and informing, alongside the obligation to complete tasks or deliverables.

[SOURCE: ISO 37500:2014, 3.16, modified — The word “roles” has been replaced with “functions”; the words “for an outsourcing arrangement” have been removed; Note 1 to entry has been added.]