
Navodila za izvajanje serije EN ISO 19650 v Evropi, zlasti 1., 2., 3., 4. in 5. del

Guidance on how to implement EN ISO 19650-series in Europe, in particular parts 1, 2, 3, 4 and 5.

Anleitung zur Umsetzung der EN-ISO-19650-Reihe in Europa, insbesondere der Teile 1, 2, 3, 4 und 5

Document d'orientation pour la mise en oeuvre de norme EN ISO 19650 en Europe, en particulier les parties 1, 2, 3, 4 et 5

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**Guidance on how to implement EN ISO 19650-series in
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Europa, insbesondere der Teile 1, 2, 3, 4 und 5

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The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

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

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European foreword

This document (CEN/TS 18113:2024) has been prepared by Technical Committee CEN/TC 442 “Building Information Modelling (BIM)”, the secretariat of which is held by SN.

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.

This document is intended to be a supporting document of the EN ISO 19650 series of standards in the form of a CEN implementation guidance. The aim is to create a common understanding of digital collaboration according to the EN ISO 19650 series of standards within the industry across Europe by fulfilling the following objectives:

- providing a framework appropriate and adaptable across Europe for implementation;
- delivering interpretation of the EN ISO 19650 series of standards for common and consistent understanding across Europe.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to announce this Technical Specification: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

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Introduction

This document is used as a supporting document to the original EN ISO 19650 series of standards. However, it has been prepared so that it can be read also as a standalone document to understand the principles of EN ISO 19650 series. It does not seek to duplicate, contradict, or extend the meaning of EN ISO 19650-1, EN ISO 19650-2, EN ISO 19650-3, EN ISO 19650-4 and EN ISO 19650-5.

This document helps to describe the journey to a robust digital collaboration based on the EN ISO 19650 series of standards, which are targeted at the whole built environment, infrastructure as well as buildings. It describes the key parts of the journey to establish a common understanding of digital collaboration. The description of how to achieve this is described in the EN ISO 19650 series of standards.

The EN ISO 19650 series of standards introduces new concepts and, defines new terms and items to consider, to promote the implementation of the information management process for assets and projects during the whole life cycle, including projects resulting in new or refurbished assets.

The principle of EN ISO 19650 series of standards is a pragmatic approach to allow all involved parties to collaborate on information management using building information modelling for projects and assets as efficiently as possible, as well as with high quality.

Applicability to projects and assets of all sizes and complexity:

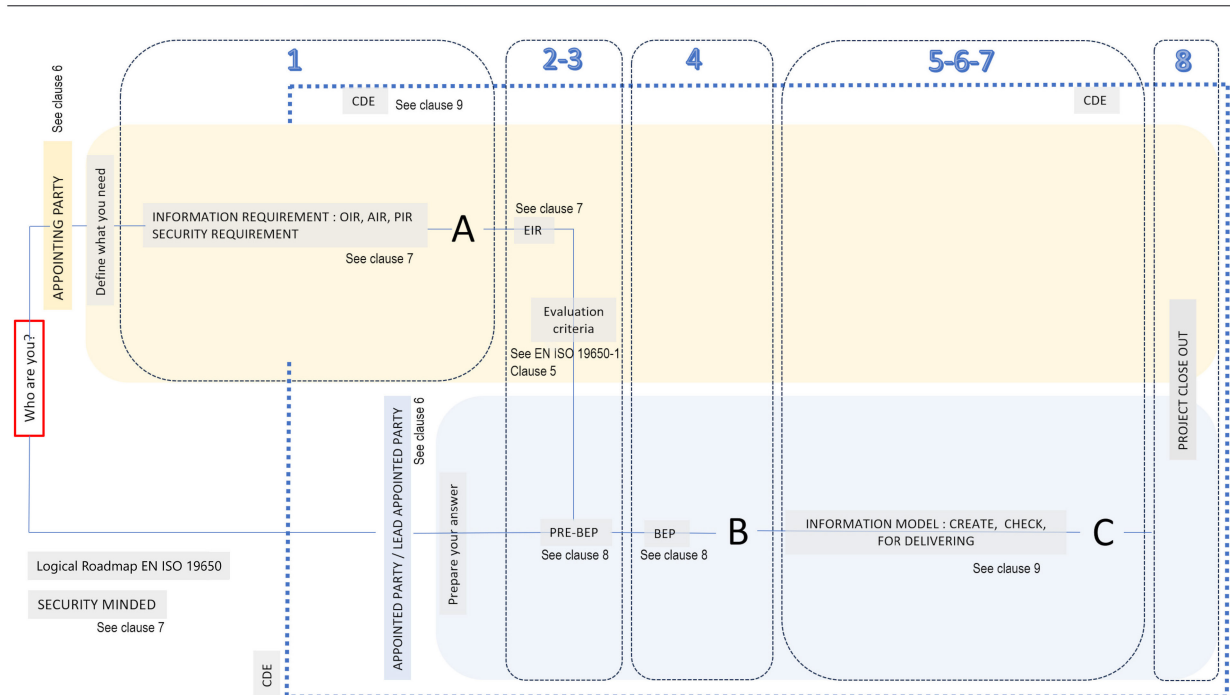
EN ISO 19650 series applies to all projects and assets regardless of their size or complexity.

EN ISO 19650-2 and EN ISO 19650-3 make wide use of the phrase “shall consider”, and it is also used in EN ISO 19650-4 and EN ISO 19650-5. This phrase is used to introduce a list of items to consider in connection with the primary requirement described in a clause. The amount of thought involved, the time taken to complete it, and the need for supporting evidence will depend on the complexity of the project or asset management activity, the experience of the person(s) involved, and the requirements of any national policy on introducing building information modelling (BIM). On a relatively small or straightforward project or asset management activity, it might be possible to complete, or dismiss as not relevant, some of these “shall consider” items very quickly.

One way to help identify which of the “shall consider” statements are relevant, might be to review each statement and create templates for projects or asset management activities of different sizes and complexity.

The first section (Clause 5) of this document provides a summary view of each part within the EN ISO 19650 series. The second section (Clauses 6, 7, 8, 9) delivers description of what the key elements of the EN ISO 19650 series standards are. The third section (Clause 10) explains the EN ISO 19650-2 to -5 processes, and Clause 11 gives some use cases of implementation in the European market.

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Key

1 assessment and need

2 invitation to tender

3 tender response

4 appointment

5 mobilization

6 collaborative production of information

7 information model delivery

8 project close-out

A information management function (see Clause 7)

project's information requirements (see EN ISO 19650-2:2018, Clause 5)

project's information delivery milestones (see EN ISO 19650-2:2018, Clause 5)

project's information standard (see EN ISO 19650-2:2018, Clause 5)

project's information production methods and procedures (see EN ISO 19650-2:2018, Clause 5)

project's reference information and shared resources (see EN ISO 19650-2:2018, Clause 5)

project's common data environment (see Clause 7, Clause 9)

project's information protocol (see EN ISO 19650-2:2018, Clause 5)

level of information need (see EN ISO 7817-1, see Clause 8)

B CAPACITY, CAPABILITY (see EN ISO 19650-1:2018, Clause 5)

MIDP, TIDP (see Clause 8)

TASK INFORMATION REQUIREMENT (see Clause 7)

FEDERATION STRATEGY (see Clause 9)

C INFORMATION CONTAINER (see Clause 9)

PIM (see Clause 9)

AIM (see Clause 9)

Mobilization (see EN ISO 19650-2:2018, Clause 5)

Collaborative production of information (see Clause 7, Clause 9)

Information model delivery (see Clause 7, Clause 8)

LEVEL OF INFORMATION NEED, Methodology for defining an Information content (see EN ISO 7817-1, see Clause 8)

EXCHANGE QUALITY, Criteria for reviewing an information exchange (see EN ISO 19650-4, see Clause 8)

Figure 1 — Global functional view: parties, appointments, teams, plans of works

1 Scope

The scope of this document is primarily focused on EN ISO 19650-1, EN ISO 19650-2, EN ISO 19650-3, EN ISO 19650-4 and EN ISO 19650-5. In the text these are referred to collectively as “the EN ISO 19650 series”. This document highlights and describes the way to use the standards, without extending or contradicting the scope and content. This document aims to provide supporting text to achieve a basic understanding and ability to implement the EN ISO 19650 series. In each country, each client and each delivery team can use this document to provide the best response to information management in each project or asset management activity.

This document explains the terms and definitions, concepts and principles and how to use them, and gives practical examples with clear explanations.

It should be noted that in this document, information management is considered as a part of project management, asset management and security management.

This document is intended to demonstrate how the EN ISO 19650 series works at the European level in a neutral way that is applicable to any project or asset regardless of:

- the nature of contracts, e.g. public, private, alliances, global, partnership;
- the actors' functions, e.g. through the programming, design, construction phases, regardless of organization size including SMEs;
- the diversity of tendering processes and commissioning practices, e.g. one main contractor (lead appointed party) on one client (as appointing party) vs. one client and multiple contracts with individual appointed parties;
- the types of works, e.g. new, refurbished, housing, infrastructure;
- the complexity of the project, asset, or activities.

2 Normative references

The following documents are referred to in the text in such a way that some or all 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.

EN ISO 19650-1:2018, *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 (ISO 19650-1:2018)*

EN ISO 19650-2:2018, *Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) — Information management using building information modelling — Part 2: Delivery phase of the assets (ISO 19650-2:2018)*

EN ISO 19650-3:2020, *Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) — Information management using building information modelling — Part 3: Operational phase of the assets (ISO 19650-3:2020)*

EN ISO 19650-4:2022, *Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) — Information management using building information modelling — Part 4: Information exchange (ISO 19650-4:2022)*

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EN ISO 19650-5:2020, *Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) — Information management using building information modelling — Part 5: Security-minded approach to information management (ISO 19650-5:2020)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 19650-1, EN ISO 19650-2, EN ISO 19650-3, EN ISO 19650-4, EN ISO 19650-5 and the following 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/>

NOTE Only necessary supplement terms for this document are listed below.

3.1 lead appointed party

appointed party accountable for coordination and delivery of information to the appointing party

Note 1 to entry: The term “party” is in this document and in the EN ISO 19650 series used to identify actors involved in information management.

3.2 information container breakdown structure

hierarchical decomposition of the information models to be delivered by a lead appointed party to accomplish the asset or project objectives

4 Symbols and abbreviations

No symbols and abbreviations are listed in this document.

5 EN ISO 19650 series – an overview

5.1 Introduction

The EN ISO 19650 series addresses the quality and utility of information that is produced and exchanged by utilizing information management based on information requirements. This is achieved by information management that generates trust that the information is useful for the purposes it is intended to fulfil. It emphasizes the benefits accumulated in the project and across the asset life cycle:

- immediately, a reduction in rework by making criteria explicit in advance;
- in the medium term, greater accuracy and efficiency of information production; and
- in the longer term, an increase in the value and relevance of information to decision making.

The goal is to ensure that the right information is available to support decisions throughout the whole life cycle of assets, and across the economic, social and physical ecosystem within which they sit.

Explanation of the EN ISO 19650 series concepts and processes are given in Clause 10.

5.2 Explanation of terms

This section explains some key terms defined EN ISO 19650-1 (parties), EN ISO 19650-3 (management), EN ISO 19650-4 (functions) and EN ISO 19650-5 (security).

EN ISO 19650-1 defines two types of party involved in information management: “appointing party” and “appointed party”.

An appointing party has specific information requirements which the party seeks to fulfil. This is done by providing clear requests via appointments of appropriate suppliers which set out what, how and when information should be provided. Further description of the appointing party is given in 6.2.

An appointed party is part of a delivery team which is collectively responding to and delivering specific information requirements allocated to that delivery team by an appointing party. This delivery team may consist of a number of appointed parties, with a lead appointed party assigned to achieve overall coordination of information production and delivery.

EN ISO 19650-3 defines only two terms: “asset management” and “facilities management”. All other terms are inherited from EN ISO 19650-1.

The term asset management is given the same definition as in ISO 55000, and facility management is given the same definition as in ISO 41011, with some small modifications in each case. The introduction to EN ISO 19650-3 explains that, while asset management and facility management have developed into distinct but related disciplines, asset management has been used in the text to cover both domains. This supports the use of the term asset in the EN ISO 19650 series.

The terms appointing party and appointed party are used throughout EN ISO 19650-3. During the operational phase of the life cycle, the appointing party is interpreted as the asset owner or asset operator. An asset operator can be a separate organization from the asset owner, such as a concession-holder for a public asset who has day-to-day responsibility for operation and maintenance of the asset.

An appointed party is any organization appointed as part of the asset management activities, to carry out part or all of the required maintenance and inspection tasks. Appointed parties can be appointed directly by the appointing party, in which case they are termed lead appointed parties. Appointed parties can be appointed in any arrangement of parallel, sequential, and hierarchical structures, as indicated in EN ISO 19650-3:2020, Figure 3.

EN ISO 19650-4 defines three actors: “information provider”, “information reviewer” and “information receiver”. Their activities are taken by different parties at different events in the collaborative information management process, but the criteria remain the same.

For example, prior to information being shared for reviewing by other parties, the activities are performed within the delivery team. Prior to the information being published, also the lead appointed party and the appointing party need to take action. (see Table 1).

Table 1 — actors in the management of information according to EN ISO 19650-2 and EN ISO 19650-3

Actor	Sharing information	Publishing information
Information provider	Appointed party task team	Appointed party
Information reviewer	Appointed party task team lead	Delivery team including lead appointed party
Information receiver	Delivery team	Lead appointed party for authorization Appointing party for acceptance

All other terms are inherited from EN ISO 19650-1.

EN ISO 19650-5 introduces the terms “security-mindedness”, “sensitive information”, “security breaches” and “security incidents”.

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Security-mindedness is defined as the understanding and routine application of appropriate and proportionate security measures in any business situation so as to either deter or disrupt, or both hostile, malicious, fraudulent and criminal behaviours or activities.

The security-minded approach should be adopted in relation to any sensitive information. Sensitive information is defined as information where the loss, misuse, or modification of, or unauthorized access to, can in any combination:

- adversely affect the privacy, welfare, or safety of an individual or individuals;
- compromise intellectual property or trade secrets of an organization;
- cause commercial or economic harm to an organization or country;
- jeopardize the security internal and foreign affairs of a country.

The term safety is defined as a state of relative freedom from threat or harm caused by random, unintentional acts or events. The definition of security is very similar, but in the case of security, the threat or harm arises from deliberate, unwanted, hostile, or malicious acts.

A security incident refers to a suspicious act or incident that threatens security, while a breach refers to the actual occurrence of an infraction or violation of security.

5.3 Overview of the EN ISO 19650 series**5.3.1 Introduction**

The EN ISO 19650 series aims to provide standards on the coordinated and collective effort required to produce information that is as useful as possible for all involved.

In EN ISO 19650-1, BIM is defined as “the use of a shared digital representation of a built asset to facilitate design, construction and operations processes to form a reliable basis for decisions”. Three clarifications are needed here:

- “Shared” means that all parties use a collaborative approach to information and have the capability to share, find and use the information they need. This means that everyone stores information in a way that achieves this.
- “Digital representation” means all forms of digital information with or without 3D geometry, for example map data, reports and surveys, calculations, models, drawings, lists, technical descriptions.
- “Of a built asset” means that the concept covers the entire life cycle, including design, construction, use and operation.

During the life cycle, large amounts of information of various kinds is handled and exchanged. One of the most important principles in the EN ISO 19650 series is that the exchange of information should be based on the information requirements (see 7.4) of the receiving party. It should be a process of pulling (see 7.1) rather than pushing information.

To support information management, the workflow and technical solution of a common data environment (CDE) shall be set up (see 9.5). This covers both the process for collecting, managing, and distributing information, and the technology which supports it. The CDE consists of one or more storage locations.

A CDE can be a single technical solution or consist of multiple technical solutions. Access to information has to be considered and then can be restricted to some of the parties as required. It is important that the solutions can communicate with each other. The same applies to which types of information sets, which data formats and which file formats etc should be used, and how these should be organized.

Questions about data security and permissions shall be considered when setting up a CDE.