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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 2: Delivery phase of the assets

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Organisation et numérisation des informations relatives aux bâtiments et ouvrages de génie civil, y compris modélisation des informations de la construction (BIM) — Gestion de l'information par modélisation des informations de la construction —

Partie 2: Phase de réalisation des actifs

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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 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.

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

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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.

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Introduction

0.1 Purpose

This document is designed to enable an appointing party to establish their requirements for information during the delivery phase of assets and to provide the right commercial and collaborative environment within which (multiple) appointed parties can produce information in an effective and efficient manner.

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 programmes that deliver them. However, the requirements 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. In particular, procurement and mobilization of asset or project appointed parties should be integrated as far as possible with documented processes for technical procurement and mobilization.

This document makes wide use of the phrase "shall consider", particularly in the requirements in Clause 5. This phrase is used to introduce a list of items that the person in question needs to think about carefully in connection with the primary requirement described in the 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, the experience of the person(s) involved and the requirements of any national policy on introducing building information modelling. On a relatively small or straightforward project, it can be possible to complete, or dismiss as not relevant, some of these "shall consider" items very quickly.

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One way to help identify which of the "shall consider" statements are relevant, can be to review each statement and create templates for projects of different sizes and complexity.

This document can be used by any appointing party. If the appointing party intends this document to apply to any asset (project) this should be reflected in the appointment.

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This document defines the information management process, containing the activities through which delivery teams can collaboratively produce information and minimize wasteful activities.

This document is primarily intended for use by the following (see Figure 1):

— those involved in the management or production of information during the delivery phase of assets;

— those involved in the definition and procurement of construction projects;

— those involved in the specification of appointments and facilitation of collaborative working;

— those involved in the design, construction, operation, maintenance and decommissioning of assets; and

— those responsible for the realization of value for their organization from their asset base.

This document contains the requirements associated with the management of information during the delivery phase of built assets, which will need to be reviewed and revised on a regular basis until the best practice is established.

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Key

AIM asset information model

PIM project information model

A start of delivery phase — transfer of relevant information from AIM to PIM

B progressive development of the design intent model into the virtual construction model

C end of delivery phase — transfer of relevant information from PIM to AIM

Figure 1 — Scope of this document

0.2 National annex with relevant national standards

There are several standards required for the successful implementation of this document, relating to specific regions or countries, that are currently not suitable for inclusion within an international standard. As such, national standards bodies are encouraged to compile and document the standards, relevant to the region or country they represent, within a national annex. National annexes can also provide localised guidance and advice on how to implement this document for projects of varying complexity.

0.3 Relationship with other standards

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The concepts and principles relating to the application of the requirements within this document are provided in ISO 19650-1.

General information on asset management can be found in ISO 55000.

Appointing parties can find that consideration of the concepts and principles contained within both ISO 19650-1 and ISO 55000 can assist the implementation of the requirements presented in this document and development of asset management in their organization.

0.4 Benefits of the ISO 19650 series

The aim of this series is to support all parties towards achieving their business objectives through the effective and efficient procurement, use and management of information during the delivery phase of assets.

International cooperation in the preparation of these documents has identified a common information management process that can be applied to the broadest range of assets, in the broadest range of organizations, across the broadest range of cultures and under the broadest range of appointment routes.

0.5 Interfaces between parties and teams for the purpose of information management

For the purpose of this document, Figure 2 shows the interfaces between parties and teams in terms of information management and should not be seen as identification of contractual relationships.

The terms for both parties and teams have been used throughout this document to identify and assign the accountable party for each sub-activity.

NOTE Delivery teams can join and leave the project team at any time.

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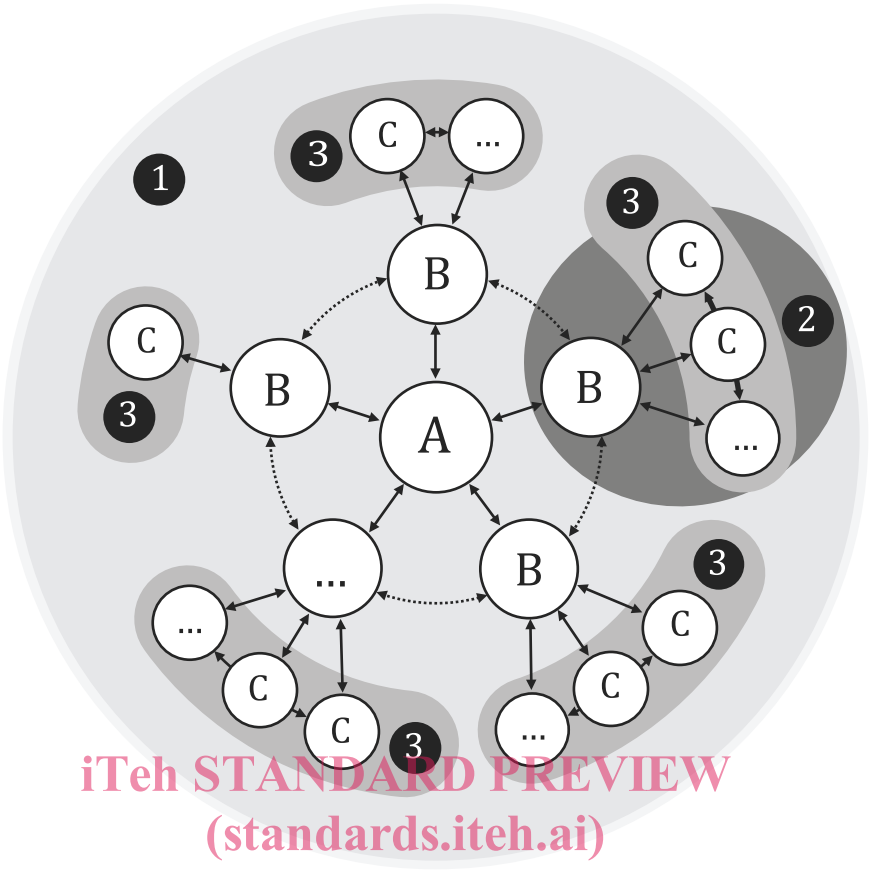

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Key

A	appointing party
B	lead appointed party
C	appointed party
...	variable amount
1	project team
2	illustration of a delivery team
3	task team(s)
◄►	information requirements and information exchange
◄··►	information coordination

Figure 2 — Interfaces between parties and teams for the purpose of information management

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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

1 Scope

This document specifies requirements for information management, in the form of a management process, within the context of the delivery phase of assets and the exchanges of information within it, using building information modelling.

This document can be applied to all types of assets and by all types and sizes of organizations, regardless of the chosen procurement strategy.

2 Normative references

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

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ISO 19650-1, *Organization of information about construction works — Information management using building information modelling — Part 1:Concepts and Principles*

ISO 12006-2, *Building construction — Organization of information about construction works — Part 2: Framework for classification*

3 Terms, definitions and symbols

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 19650-1 and the following 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/

3.1.1 General terms

3.1.1.1
acceptance criteria
evidence required for considering that requirements have been fulfilled

[SOURCE: ISO 22263:2008, 2.1]

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3.1.2 Terms related to assets and projects

3.1.2.1
project team
appointing party and all delivery teams

3.1.2.2
plan of work
document that details principal stages in the design, construction work and maintenance of a project and identifies the main tasks and people

Note 1 to entry: A plan of work may be extended to include the stages in demolition and recycling of a project.

[SOURCE: ISO 6707-2:2017, 3.2.19, modified — Alternative terms “staging plan, US” and “project plan, US” have been removed; Note 1 to entry has been added.]

3.1.3 Terms related to information management

3.1.3.1
BIM execution plan
plan that explains how the information management aspects of the appointment will be carried out by the delivery team

Note 1 to entry: The pre-appointment BIM execution plan focuses on the delivery team’s proposed approach to information management and their capability and capacity to manage information.

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3.1.3.2
information delivery milestone
scheduled event for a predefined information exchange

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3.1.3.3
master information delivery plan
MIDP
plan incorporating all relevant *task information delivery plans* (3.1.3.4)

3.1.3.4
task information delivery plan
TIDP
schedule of information containers and delivery dates, for a specific task team

3.2 Symbols

start

end

collapsed sub-process

activity

NOTE the symbols used within this document have been adapted from symbols defined within ISO/IEC 19510.

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