Centre for Digital Built Britain

Part 0

Guidance

UNIVERSITY OF CAMBRIDGE

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Executive summary

This national ISO 19650 – Part 0 has been purposely designed to provide **{country name}** with assistance in transitioning from current national standards related to information management and building information modelling (BIM) to the ISO 19650 series, including references to associated internationally recognised standards.

ISO 19650 – Part 0, when completed, will form part of the technical framework that will be the foundation for a given country or region's building information modelling (BIM) implementation programme. Figure 1 illustrates the framework pyramid methodology towards setting those pillars that will support building information modelling (BIM) implementation at a national level.

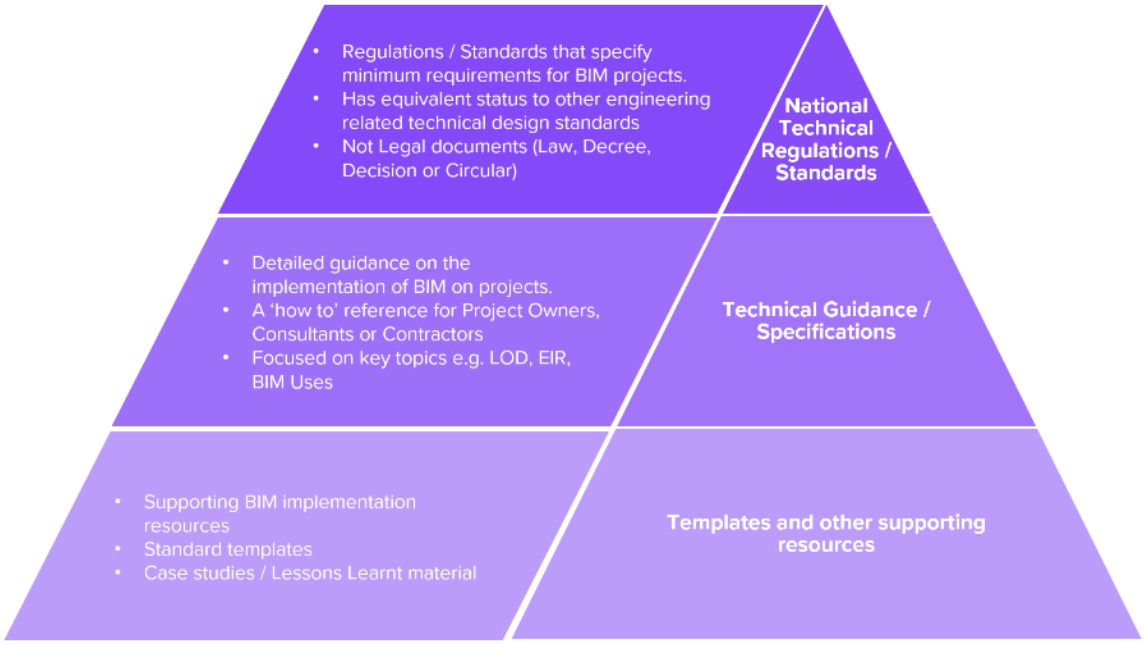

Figure 1: BIM toolkit collaboration framework

The ISO 19650 series has been designed to maximise the benefits of standardised information management procedures. Part 0 aims to provide a narrative of the changes to current practices by:

- Mapping the existing national standards to the ISO 19650 series;
- Providing insights into the existing national standards and processes that will be superseded by the adoption of a new ISO 9650 series; and
- Identifying the potential impact of the transition from one standard to another.

Existing national standards that are currently in use will either need to be withdrawn, as they have been superseded by the ISO 19650 series, or amended to complement these international standards.

1 Scope

Describe the subject/ purpose of the document and what it covers.	This guide is to assist **{country name}** to help those familiar with **{national standard}** transition to the new international standards ISO 19650 series.

<The example below demonstrates the scope that could be adopted. When adopting this text, care should be taken to ensure that it conforms to ISO Directives Part 2:2018.>

It is aimed at all organisations and individuals responsible for the inception, briefing, design, production, maintenance, use and demolition of buildings and civil engineering works.

These new international standards are applicable to all scales of building and civil engineering works and all forms of project management and project procurement.

2 Normative references

Provide a list of documents that are cited in the text in such a way that they should be read in conjunction with this document.

To assist **{country name}** in producing a schedule of normative references, the following example has been provided.

<The example below demonstrates normative references that could be adopted. When adopting this text, care should be taken to ensure that it conforms to ISO Directives Part 2:2018.>

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

- ISO19650–1:2018 – Organisation and digitisation of information about buildings and civil engineering work, including building information modelling (BIM) ‑ information management using building information modelling, Part 1: Concepts and principles.
- ISO19650–2:2018 – Organisation and digitisation of information about buildings and civil engineering works, including building information modelling ‑ information management using building modelling, Part 2: Delivery phase of the assets.

{other national standards}

3 Terms and definitions

Provide a list of definitions that are necessary to understand the terms used in this document.

To ensure that **{country name}** communicates about BIM consistently, there is a need to agree a schedule of terms and definitions.

<The example below demonstrates the terms and definitions that could be adopted. When adopting this text, care should be taken to ensure that it conforms to ISO Directives Part 2:2018.>

Example 1 (when no additional terms have been identified).

For the purposes of this document, the terms and definitions given in ISO 6707–1, ISO 19650–1 and in ISO 19650–2 apply.

{additional terms}

4 Overview of the ISO 19650 series

Provide a summary overview of the ISO 19650 series. The timing and release of future standards should be noted and considered. This section shall be updated to reflect updates or changes.

To enable the adoption of building information modelling (BIM) in **{country name}**, including its various regional areas, there is a need to understand and agree on the use of the new international ISO 19650 series.

<The example below demonstrates the context of the current and future developments of the standard definitions of the ISO 19650 series that could be adopted.

When modifying, to suit your national requirements:

- Only update/remove standards as necessary to the latest revision or version;
- Identify the standards, including title and full description if applicable.>

The construction and infrastructure industry, also known as the AEC (architectural, engineering and construction) industry, is a global industry. With the adoption of building information modelling (BIM), it is moving towards a more digitalised environment that brings inherent benefits and efficiencies.

The International Organization for Standardization (ISO) has developed several standards around information management and building information modelling (BIM) that can be adopted internationally. Adopting these standards enables a common framework for the successful management of information through the industry, providing further opportunity to integrate on an international scale.

The ISO 19650 series aims to provide that framework and is organised as follows.

Current standards:

- ISO19650–1:2018 – Organisation and digitisation of information about buildings and civil engineering work, including building information modelling (BIM) ‑ information management using building information modelling, Part 1: Concepts and principles.
- ISO19650–2:2018 – Organisation and digitisation of information about buildings and civil engineering works, including building information modelling ‑ information management using building modelling, Part 2: Delivery phase of the assets.
- ISO19650–5:2020 – Organisation and digitisation 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.

Future developments;

- ISO19650–3 – Organisation and digitisation 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.
- ISO19650–4 – Organisation and digitisation of information about buildings and civil engineering works, including building information modelling (BIM) ‑ information management using building information modelling, Part 4: Information exchange.

Both the National Annex (NA) and ISO 19650 – Part 0 are supplementary documents that support the ISO 19650 series, providing specific regional or national clarifications.

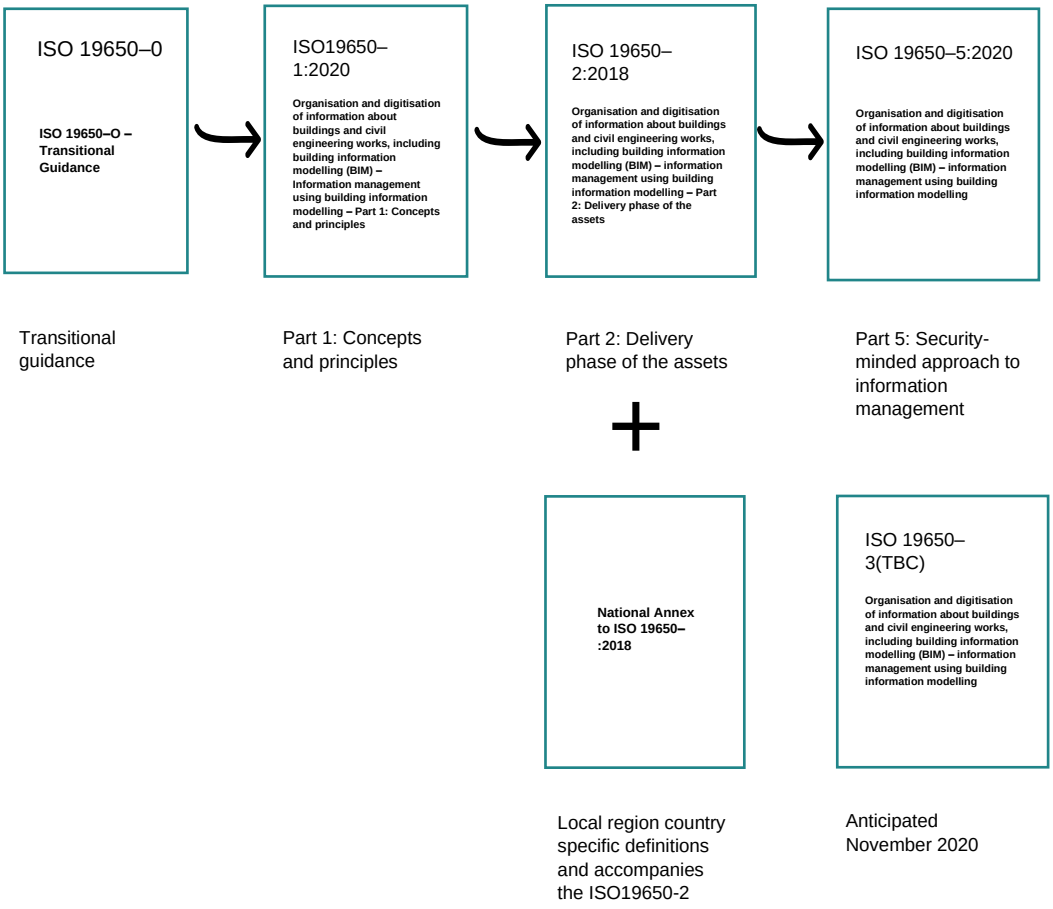

Figure 4.1: Current international ISO 19650 structure

Please note that the diagram provides a high-level overview of the suite of documents related to the ISO 19650 series.

5 Standards mapping

To assist readers in understanding the integration and adoption of the ISO 19650 series, map any relevant existing standards/clauses against the new international standards.

This will provide an understanding of which standards will remain current alongside the ISO 19650 series as part of this transition.

To assist **{country name}** with the migration of current national information management and/or construction standards, the 'mapping' table below has been created to provide an understanding of the transition to the new adopted international standards.

<The example below demonstrates an instance-by-instance clarification of the existing in-country/region-specific standard versus the (replacing) internationally recognised ISO 19650 series. If there are no like-for-like standards, then use Table 5.1: Standards mapping .>

It is important to ensure that clauses within standards do not conflict with one another. It is recommended that any national clauses that conflict with ISO 19650 be reviewed so that a revision can be planned to omit/amend any conflicting national clauses.

If any existing national standards are to remain in place and become complementary to the ISO 19650 series, these should be noted.

How to adopt and update the table below:

- Update any item highlighted in <insert in-country or region-specific standard or equivalent> with the equivalent region/country-specific standard to that of the ISO 19650 series.>

Table 5.1: Standards mapping

Regional/country standards	Current and forthcoming ISO 19650 standards
Standards related to procurement and delivery phases	
<Insert in-country or region standard or equivalent>	ISO19650–1:2018 Organisation and digitisation of information about buildings and civil engineering work, including building information modelling (BIM) - information management using building information modelling, Part 1: Concepts and principles
<Insert in-country or region standard or equivalent>	ISO19650–2:2018 Organisation and digitisation of information about buildings and civil engineering works, including building information modelling - information management using building modelling, Part 2: Delivery phase of the assets

6 Terminology mapping

The ISO 19650 series uses specific terminology relating to building information modelling (BIM) concepts and principles.

Provide any corresponding national terminology that may already be in use, for the definitions/functions described.

This will create an ISO 19650 standard series 'translation guide'.

To enable the implementation of building information modelling (BIM) in **{country name}**, including its various regional areas, it is necessary to create an alignment of the language between the ISO 19650 series terminology and the national terminology.

The purpose is to provide a direct translation for the different ISO 19650 series terminologies to the local context, thus allowing the reader/user(s) to fully understand the relevant terminology used.

<How to complete Table 2.1:>

- Where applicable, provide the national equivalent term for the direct ISO 19650 standard series term, translating them directly into the appropriate language.
- Rows or columns can be increased or reduced to suit the requirements for the local language context terminology adopted.

Below is an example of how ISO 19650 series terms may be interpreted.>

Table 6.1: Glossary of terms

ISO 19650 term (English)	ISO 19650 definition (English)	Source	National term	Definition	Source
Information delivery milestone	Scheduled event for a predefined information exchange	IS0 19650–2:2018, 3.1.3.2	Project milestone		

7 Information delivery milestone mapping

This section is intended to explain the benefit of establishing information delivery milestones throughout a project.

Where possible, relate information delivery milestones to existing known project stages.

The ISO 19650 series recommends that information should be exchanged against information delivery milestones to enable decision-making. It is essential to manage a regular flow of information and make it simple to understand rather than overwhelming and opaque.

It is necessary to break projects into more manageable steps for effective and decisive decision-making. **{Country name}** has identified its suggested minimum breakdown of stages below.

<The example below demonstrates an overview of how project stages assist with information management throughout the delivery phase of an asset.>

Provide an overview of national information delivery milestones that can support the building information modelling (BIM) concepts and principles outlined in ISO19650 series. This could include defining key project stages to choose the number delivery phase of an asset.

Table 7.1: Project stages) below has been completed using the RIBA plan of works (framework for the management of project information) to provide a reference for project stages that could be adopted. To align with national prerequisites, modify the table in the template:

1. Ensure that stages are in chronological order; this will help to identify the sequence to the project stages.
2. The second column, ‘Project stage’, should be used to define the collective term for the tasks described in Column 3.
3. The third column, ‘Stages and activities’, should be used to identify significant events/actions that are to happen within the relevant project stage.
4. <Add or remove rows or columns as necessary.>

A project is divided into parts that help to manage the processes within. The term ‘project stages’ is generally applied as per their definition in the contract but is not fixed in terms of terminology. Therefore, it is preferable to adopt national-specific terms (below), which are recognised by all parties.

Table 7.1: Project stages

Chronological order	Project stage	Stage and activities/information delivery milestones
0	Inception	- Identification of needs - Survey of local prerequisites - Comparative studies of alternative solutions - Financial analysis and budgeting
1	Brief	- Consultation with authorities and users - Survey and studies of reference projects - Survey of neighbouring buildings and environment - Compilation of a functional and technical brief - Drafting of layouts

2	Design	- Assessment of project objectives regarding aesthetics, function, technical aspects and economy - Consultation with authorities, client, users and other stakeholders - Review of brief - Production and review of models, drawings and specifications - Handling of non-conformities and defects -
3	Production	- Detailed planning of the production regarding time, economy, occupational safety and health, etc. - Procurement, handling, storing and protection of material, goods and construction components - Production and assembling of construction elements and installations, groundwork - Commissioning - Inspections and tests - Production of as-built drawings and instructions for use and maintenance - Compilation of records for client, authorities and insurance companies - Handover
4	Demolition	- Technical analysis of the construction - Inspection of neighbouring buildings - Plan for reuse and recycling - Production of demolition drawings - Production of dismantling drawings - Planning, taking and reviewing of environmental measures - Planning and closing of media, etc. (water, electricity), including preventive safety measures - Planning and dismantling (prefabricated components), including preventive safety measures - Planning of handling and storing of components and debris for reuse and recycling or deposit - Inspections on-site - Compilation of records for client, authorities and insurance companies - Restoring of site
<Add or remove row as required>		

Information should be issued at predefined information delivery milestones that mark the exchanges that take place between the appointing party and the delivery team; these can act as gateways to the following phase. The information delivered should be as per the appointing party's information requirements.

Figure 4.2 (Project life-cycle diagram) below illustrates a typical project life cycle with defined project stages and indicates the key decision points. As the project matures and develops, the information matures.

Figure 7.1: Project life-cycle diagram