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Guideline for the implementation of Exchange Information Requirements (EIR) and BIM Execution Plans (BEP) on European level based on EN ISO 19650-1 and -2

Guide pour la mise en œuvre des exigences en matière d'échange d'informations (EIR) et de plans d'exécution BIM (BEP) au niveau européen sur la base des normes EN ISO 19650-1 et 2

Leitfaden für die Implementierung von BIM-Ausführungsplänen (BEP, en: BIM Execution Plan) und Austausch-Informationsanforderungen (EIR, en: Exchange Information Requirement) auf europäischer Ebene auf EN ISO 19650-1 und -2 basierend

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European foreword

This document (CEN/TR 17654:2021) has been prepared by Technical Committee CEN/TC 442 “Building Information Modelling”, 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.

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.

Introduction

Reference to EN ISO 19650-1, EN ISO 19650-2 and CEN/TR 17439.

This document aims at applicability across Europe, and provides, especially with regard to the attached template in Annex A, a lowest common denominator to help responsible parties to capture and deliver the most relevant information.

Qualified technical decisions are only possible based on quality-ensured information. The conversion of the project specific needs for information into technical-formal information requirements is a complex task that requires special skills and needs experience and a standardized procedure. The tendering of data can be carried out, as described in this guideline, in the form of exchange information requirements (EIR).

Another central aspect of BIM according to EN ISO 19650-1 and EN ISO 19650-2 is collaborative work. Early and regular sharing of work, sharing and using information as opposed to files or “electronic paper” are core elements of BIM and enable the often experienced and described benefits of better communication, coordination, efficiency, transparency and control. The conventions, processes, rules and technical support required for this are referenced in the BIM execution plan (BEP) and form the backbone of information creation.

All exemplary templates in Annex A and examples of use in Annex B can be adapted, either due to specific requirements of an organization or region. National bodies can develop complementary national annexes and guidance to EN ISO 19650-2 based on this document.

1 Scope

This document deals with the processes involved in the procurement and delivery of information to planning and construction projects, specifically with exchange information requirement (EIR) and BIM execution plan (BEP), considering the administrative processes. This document takes into account international standards and specifications as well as recommended practice.

This document is relevant for all parties involved in the tendering of information deliverables. Including both those that require and those that deliver the information. The required information can be relevant for all processes in the life cycle such as design, construction, operation and maintenance and end-of-life processes. It applies above all to e.g. client, asset owners/operators, architects, engineer, contractors, subcontractors etc.

This document provides methodology to appointing parties on how to require and agree the right amount, quality and level of information needs.

It is also important for appointed parties to be able to assess the quality of existing EIRs and identify possible over-specification or gaps. Based on this, it is possible to estimate and calculate the necessary effort for data creation.

This document operationalizes the tendering and appointment process of information deliverables as specified in EN ISO 19650-2:2018. This document does not cover all clauses of EN ISO 19650-2:2018. Its main goal is to provide template examples and guidance for all activities conditioning specification of requirements and deliverables in the production of exchange information requirements and BIM execution plan. Specifically, it covers the “shall” and “shall consider” requirements in EN ISO 19650-2:2018, 5.2.1 (EIR), 5.3.2 (pre-appointment BEP) and 5.4.1 (confirmed BEP). For specification of Scope and out of scope see Table 1 (see Annex A for which part of EN ISO 19650-2:2018 is supported by templates).

Table 1 — Scope of documentation covered in this document according to EN ISO 19650-2:2018 clause reference

	Invitation to tender EIR	Tender response pre-appointment BEP	Appointment BEP
In scope	5.2.1 Appointing party’s exchange information requirements a) information requirement b) level of information need c) acceptance criteria d) supporting information e) information delivery dates	5.3.2 Delivery team’s (pre-appointment) BIM execution plan a) information management functions b) information delivery strategy c) federation strategy d) high-level responsibility matrix e) project’s information production methods and procedures f) project’s information standard g) schedule of software	5.4.1 Confirm the delivery team’s BIM execution plan 5.4.3 lead appointed party’s exchange information requirements
Out of scope	5.2.4 Invitation to tender information – the relevant reference information and shared resources (within the project’s common data environment) – the tender response requirements and evaluation criteria (if applicable) – the project’s information standard and (within the project’s common data environment) – the project’s information production methods and procedure (within the project’s common data environment) – the project’s information protocol	5.3.7 The delivery team’s tender response – capability and capacity assessment summary – mobilization plan – information delivery risk assessment	5.4.6 Lead appointed party’s appointment documents 5.4.7 Appointed party’s appointment documents

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	Invitation to tender EIR	Tender response pre-appointment BEP	Appointment BEP
Out of scope although included in Annexes	5.1.4 Project's information standard examples in Annex D in this document		5.4.2 Delivery team's detailed responsibility matrix 5.4.4 Task information delivery plan(s) 5.4.5 Master information delivery plan

2 Normative references

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.

EN 17412-1:2020, *Building Information Modelling - Level of Information Need - Part 1: Concepts and principles*

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)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply: the terms and definitions given in EN ISO 19650-1:2018, EN ISO 19650-2:2018.

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

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

4 General

4.1 The tendering process of information delivery

The workflow for appointing information deliverables as described in EN ISO 19650-2:2018 is as follows (see Figure 1):

- 1) Invitation to tender.
- 2) Tender response.
- 3) Appointment.