SLOVENSKI STANDARD
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Informacijski modeli stavb - Priročnik z informacijami - 2. del: Okvirni podatki o medsebojnem vplivanju (ISO 29481-2:2012)

Building information models - Information delivery manual - Part 2: Interaction framework (ISO 29481-2:2012)

BIM - Informationshandbuch - Teil 2: Interaktionsstruktur (ISO 29481-2:2012)

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Modèles des informations de la construction - Contrat d'interchange - Partie 2: Cadre d'interaction (ISO 29481-2:2012)

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Building information models - Information delivery manual - Part 2: Interaction framework (ISO 29481-2:2012)

Modèles des informations de la construction - Contrat d'interchange - Partie 2: Cadre d'interaction (ISO 29481-2:2012)

BIM - Informationshandbuch - Teil 2: Interaktionsstruktur (ISO 29481-2:2012)

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Ref. No. EN ISO 29481-2:2016 E

SIST EN ISO 29481-2:2016

Contents

Page

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN ISO 29481-2:2016
https://standards.iteh.ai/catalog/standards/sist/fa243ad0-8b21-47de-b163-ed38dc68ec12/sist-en-iso-29481-2-2016

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European foreword

The text of ISO 29481-2:2012 has been prepared by Technical Committee ISO/TC 59 “Buildings and civil engineering works” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 29481-2:2016 by 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of an identical text or by endorsement, at the latest by April 2017, and conflicting national standards shall be withdrawn at the latest by April 2017.

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SIST EN ISO 29481-2:2016

iTeh STANDARD PREVIEW
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SIST EN ISO 29481-2:2016
https://standards.iteh.ai/catalog/standards/sist/fa243ad0-8b21-47de-b163-ed38dc68ec12/sist-en-iso-29481-2-2016

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Part 2: Interaction framework

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Partie 2: Cadre d'interaction

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SIST EN ISO 29481-2:2016
https://standards.iteh.ai/catalog/standards/sist/fa243ad0-8b21-47de-b163-ed38dc68ec12/sist-en-iso-29481-2-2016

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SIST EN ISO 29481-2:2016

Contents

Page

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN ISO 29481-2:2016
https://standards.iteh.ai/catalog/standards/sist/fa243ad0-8b21-47de-b163-ed38dc68ec12/sist-en-iso-29481-2-2016

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this part of ISO 29481 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 29481-2 was prepared by Technical Committee ISO/TC 59, *Buildings and civil engineering works*, Subcommittee SC 13, *Organization of information about construction works*.

ISO 29481 consists of the following parts, under the general title *Building information models — Information delivery manual*:

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— *Part 1: Methodology and format*

— *Part 2: Interaction framework*

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The following parts are under preparation:

— *Part 3: Model view definitions*

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Introduction

Building information modelling provides a concept for describing and displaying information required in the design, construction, and operation of constructed facilities. It can bring together the diverse sets of information used in construction into a common information environment — reducing, and often eliminating, the need for the many types of paper documentation currently in use.

An information delivery manual (IDM) provides significant help in getting the full benefit from a building construction information model (BIM). If the information required is available when it is needed and the quality of information is satisfactory, the construction process itself will be greatly improved. For this to happen, there should be a common understanding of the building processes and of the information that is needed for and results from their execution.

This part of ISO 29481 focuses on aspects of the construction process that refer to management and coordination of the involved parties. Coordination is dependent on communication, which should be well structured, unambiguous, explicit, and prompt. Due to a sharp focus on coordination and interaction, this part of ISO 29481 provides a natural complement to standards that focus on building modelling like ISO 10303-239 and ISO 16739.

This part of ISO 29481 sets out a methodology and format for describing coordination acts between actors in a construction project. It describes how to identify and define the coordination processes undertaken and the information required for their execution. The resulting interaction frameworks enable standardization of interaction in building processes on national, local, and project level. It also gives a format to support solutions provided by ICT-solution providers. Support of this part of ISO 29481 in different ICT-solutions means that this joins together different process management systems. In doing so, it provides a basis for reliable information exchange/sharing for users, so that they can be confident that the information they are sending or receiving is accurate and sufficient for the coordination activities they need to perform.

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The development of this part of ISO 29481 has been driven by the need of users for reliability in information exchange. It is mainly based on the Dutch VISI standard developed in 2003.

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https://standards.iteh.ai/catalog/standards/sist/fa243ad0-8b21-47de-b163-ed38dc68ec12/sist-en-iso-29481-2-2016

SIST EN ISO 29481-2:2016

Building information models — Information delivery manual —

Part 2: Interaction framework

1 Scope

This part of ISO 29481 specifies a methodology and format for describing 'coordination acts' between actors in a building construction project during all life cycle stages.

It therefore specifies

— a methodology that describes an interaction framework,

— an appropriate way to map responsibilities and interactions that provides a process context for information flow,

— a format in which the interaction framework should be specified.

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This part of ISO 29481 is intended to facilitate interoperability between software applications used in the construction process, to promote digital collaboration between actors in the building construction process, and to provide a basis for accurate, reliable, repeatable, and high-quality information exchange.

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2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 29481-1, *Building information modelling — Information delivery manual — Part 1: Methodology and format*

3 Terms and definitions

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

3.1
IDM
Information Delivery Manual
documentation which captures the business process and gives detailed specifications of the information that a user fulfilling a particular role would need to provide at a particular point within a project

3.2
interaction framework
formal description of the elements of interaction, including definition of roles, transactions, messages in transaction, and data elements in messages

3.3
interaction framework schema
formal description of the rules with which an interaction framework must comply

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3.4
interaction schema
formal description of the rules with which sent and received messages must comply

3.5
promotor
algorithm that generates an interaction schema from an interaction framework, interaction framework schema, and templates file as input

3.6
templates file
file containing a number of templates, independent of the interaction framework, for generating an interaction schema

3.7
VISI
acronym for Dutch standard for communication between partners in construction projects

Note 1 to entry: VISI stands for "Voorwaarden scheppen voor Invoeren Standaardisatie ICT in de Infrastructuur-sector" which translates as "Creating conditions for the implementation of ICT standardization for the construction industry")

4 Standard principles

4.1 General

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This clause is included to highlight and help explain essential concepts on which this part of ISO 29481 is based.

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4.2 BIM and IDM

Building information modelling brings together the diverse sets of information used in construction into a common information environment. For this to happen, there should be a common understanding of the building processes and the information that is needed for and from their execution.

ISO 29481 is a standard that sets out a method for the development of an Information Delivery Manual.

The IDM methodology given in ISO 29481-1 shall be used for all references to development and use of IDM.

4.3 Components of IDM

The methodology and components of IDM are described in ISO 29481-1. In that part, an illustration is given that diagrammatically shows what the different components of IDM are and how they are related.

Within IDM, there are two perspectives. These are seen as user requirements and technical solutions. Within the two perspectives, there are a number of zones that characterize the various components of IDM (see Figure 1).

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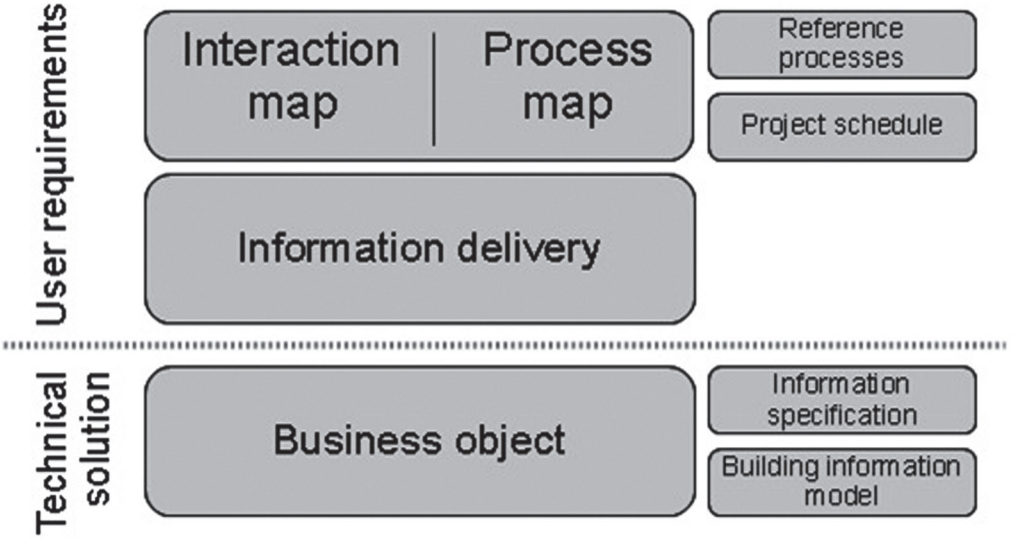

Figure 1 — IDM zones

Within the user-requirements perspective, these zones are

— interaction maps, describing the roles and interactions between them,

— process maps, describing the overall process in which information exchange occurs,

— information delivery, describing the information exchange needs,

— reference processes (stored exchange descriptions),

— the project schedule (occurrences of processes in the context of a project).

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SIST EN ISO 29481-2:2016
https://standards.iteh.ai/catalog/standards/sist/243ad0-8b21-47de-b163-ed38dc68ec12/sist-en-iso-29481-2-2016

The technical-solution perspective includes

— the business objects comprising the exchange requirement model,

— the information specification, describing the schema on which the information exchange is based,

— the building information model.

This part of ISO 29481 focuses on the interaction map and is based on general principles of business communication.

4.4 Basic principles of business communication

Once a client or customer has asked to deliver a product or provide a service, there will be a chain of activities in operation, whose combined effect is to provide the product or service. Such a chain of activities is called a business process. More specifically, we speak here of a primary business process because it is initiated externally.

Part of the business process is the communication between the involved parties. This part of ISO 29481 concentrates on the communication that relates to the delivery of an outcome (performative communication). The initiation and execution of a request is through communicative actions. In a communicative action, two parties are always involved: the person who performed the action and the person to whom the action is directed. The handling of a request appears to occur in a particular pattern called the transaction.

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