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Bygginformationsmodell (BIM) – Manual för överföring av data – Del 1: Metodologi och format (ISO 29481-1:2010, IDT)

Building information modelling – Information delivery manual – Part 1: Methodology and format (ISO 29481-1:2010, IDT)

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The International Standard ISO 29481-1:2010 has the status of a Swedish Standard. This document contains the official version of ISO 29481-1:2010.

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Information about the content of the standard is available from the Swedish Standards Institute (SIS), telephone +46 8 555 520 00. Standards may be ordered from SIS Förlag AB, who can also provide general information about Swedish and foreign standards.

Denna standard är framtagen av kommittén för Bygg- och förvaltningsdokumentation, SIS/TK 269.

Har du synpunkter på innehållet i den här standarden, vill du delta i ett kommande revideringsarbete eller vara med och ta fram andra standarder inom området? Gå in på www.sis.se - där hittar du mer information.

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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 document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 29481-1 was prepared by Technical Committee ISO/TC 59, *Building construction*, Subcommittee SC 13, *Organization of information about construction works*.

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

— *Part 1: Methodology and format*

The following part is planned:

— *Part 2: Management communication*

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 sets out a methodology and format for the provision of an integrated reference for the processes and data required by a BIM. It describes how to identify and describe the processes undertaken within construction, and the information required for their execution and the results. This part of ISO 29481 also describes how this information can be further detailed to support solutions provided by building-information-system providers in a form that enables its reuse and how it can be configured to meet national, local and project needs.

In doing so, this part of ISO 29481 provides a basis for reliable information exchange/sharing for users so that they can be confident that the information they are receiving is accurate and sufficient for the activities they need to perform. The development of this part of ISO 29481 has been driven by the need of users for reliability in information exchange.

Examples and guidelines related to the development of IDMs will be published at: <http://www.standard.no/IDM>. The site will be developed and maintained by the ISO/TC 59/SC 13 secretariat.

Building information modelling — Information delivery manual —

Part 1: Methodology and format

1 Scope

This part of ISO 29481 specifies a methodology and format for the development of an information delivery manual (IDM).

This part of ISO 29481 specifies

- a methodology that unites the flow of construction processes with the specification of the information required by this flow,
- a form in which the information should be specified, and
- an appropriate way to map and describe the information processes within a construction life cycle.

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 construction process and to provide a basis for accurate, reliable, repeatable and high-quality information exchange.

2 Terms and definitions

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

2.1

actor

person, organization or organizational unit (such as a department, team, etc.) involved in a construction process

2.2

building construction information model

BIM

shared digital representation of physical and functional characteristics of any built object (including buildings, bridges, roads, etc.) which forms a reliable basis for decisions

NOTE “Building information model” is frequently used as a synonym for BIM.

2.3

building information system

system used to create, maintain, disclose or expire elements of a building information model

NOTE The components of the system can include actors, hardware (servers, clients, peers) and software solutions.

2.4
business process modelling notation
BPMN

notation for use in the development of business process diagrams that is designed to be readily understandable by all business users

2.5
business requirement
requirement that describes in business terms what needs to be delivered or accomplished

2.6
business rule
statement that formally defines or constrains some aspect of the business, a rule under which an organization operates or a policy or decision that influences a process

2.7
exchange requirement
ER
set of information that needs to be exchanged to support a particular business requirement at a particular process phase (or phases) / stage (or stages)

NOTE Information delivery requirement can be used as a synonym for exchange requirement.

2.8
exchange requirement model
ERM
technical expression of an exchange requirement expressed as a schema

NOTE An exchange requirement model describes the binding of an exchange requirement to a particular standard information schema and version.

2.9
functional part
FP
unit of information within an exchange requirement that may be fully specified in its own right

2.10
interaction map
representation of the roles and transactions relevant for a defined purpose

2.11
management communication
sharing information for a management purpose

2.12
model
representation of a system that allows for investigation of the properties of the system

NOTE "Representation" is defined in <http://www.businessdictionary.com/definition/representation.html>.

2.13
process map
PM
representation of the relevant characteristics of a process for a defined purpose

2.14

role

functions being performed by an actor at a point in time

NOTE The role of an actor is determined by action and outcome and not by the profession or trade followed by the actor.

2.15

schema

schema is a description of the formal structure of a defined set of information

2.16

transaction

communication event that fulfils a relationship between two roles

3 IDM (Information delivery manual)

3.1 Complete schema

A complete information schema that covers all of the information required for all actors throughout the construction process will be large and comprehensive. Such a schema is relevant in defining all of the project information needs for all business requirements at all life-cycle stages (see Figure 1), but it is not the way that project information is usually delivered.

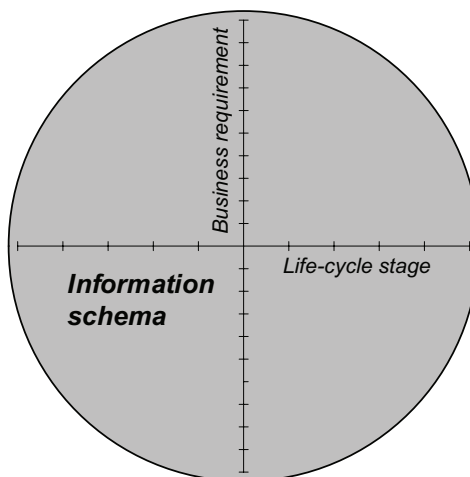


Figure 1 — The information schema supports all business requirements at all life-cycle stages

3.2 Breaking a complete schema to support requirements

It is more usual for information to be exchanged about a particular topic and the level of detail provided to be driven by the life-cycle stage. The need is (generally) to support one business requirement over one or more life-cycle stages (see Figure 2). This is a matter of deciding which components of the information schema should be used to meet requirements.