SLOVENSKI STANDARD
oSIST prEN 18162:2025

01-april-2025

Informacijsko modeliranje gradenj - Digitalni dvojčki v grajenem okolju - Koncept in definicije

Building Information Modelling (BIM) - Digital twins applied to the built environment - Concept and definitions

Building information modelling - Digitale Zwillinge in der bebauten Umwelt - Struktur und Definitionen

Modélisation des informations de la construction (BIM) - Jumeaux numériques en environnement bâti - Concept et définitions

Ta slovenski standard je istoveten z: **prEN 18162**

ICS:

35.240.67	Uporabniške rešitve IT v gradbeništvu	IT applications in building and construction industry
91.010.01	Gradbeništvo na splošno	Construction industry in general

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English Version

Building Information Modelling (BIM) - Digital twins applied to the built environment - Concept and definitions

Modélisation des informations de la construction (BIM) - Jumeaux numériques en environnement bâti - Concept et définitions

Building information modelling - Digitale Zwillinge in der bebauten Umwelt - Struktur und Definitionen

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (prEN 18162:2025) has been prepared by Technical Committee CEN/TC 442 “Building Information Modelling (BIM)”, the secretariat of which is held by SN.

This document is currently submitted to the CEN Enquiry.

Introduction

This document defines the terminology for describing the relation between objects in the built environment sector, their digital twin counterparts, and associated information.

In addition, this document aims at facilitating data flow within this sector, promoting the availability, sharing, and reuse of high-quality data to drive the creation of new business models and services, thus contributing to the development of data spaces. This development strives for better adherence to the FAIR principles, which means that information and services related to buildings and civil engineering works and their digital twins should be easily findable, accessible, interoperable, and reusable.

Moreover, the Web of Data initiative led by the World Wide Web Consortium (W3C) has developed a set of authoritative standards for semantic interoperability. These standards enable the representation, exchange, querying, reasoning and validation of knowledge based on graph-oriented data models. RDF (Resource Description Framework) vocabularies, SKOS (Simple Knowledge Organization System) taxonomies and OWL (Web Ontology Language) ontologies help define and organize the important concepts of a domain, as well as the relationships that may exist between objects in that domain.

The use of standard vocabularies for metadata are already ubiquitous on the web, and the use of ontologies to structure data are becoming increasingly important, notably via the Linked Open Data initiative. Semantic interoperability of data and services on data spaces is favoured by a widespread use of ontologies.

However, as point of start, it is inherent to any digitalisation of a real asset in the built environment, that two main types of information are faced: (1) contextual data sets, behaving as static data with minor changes across the lifetime of the real asset and (2) dynamic data sets, behaving as fast-moving data series in short intervals of time, approaching towards near-real-time rates. From the contextual data sets, two main subtypes are considered: structured and unstructured data. From the dynamic data sets, another two main subtypes are considered: real and synthetic data.

Figure 1 represents these relations between the types and subtypes of data.

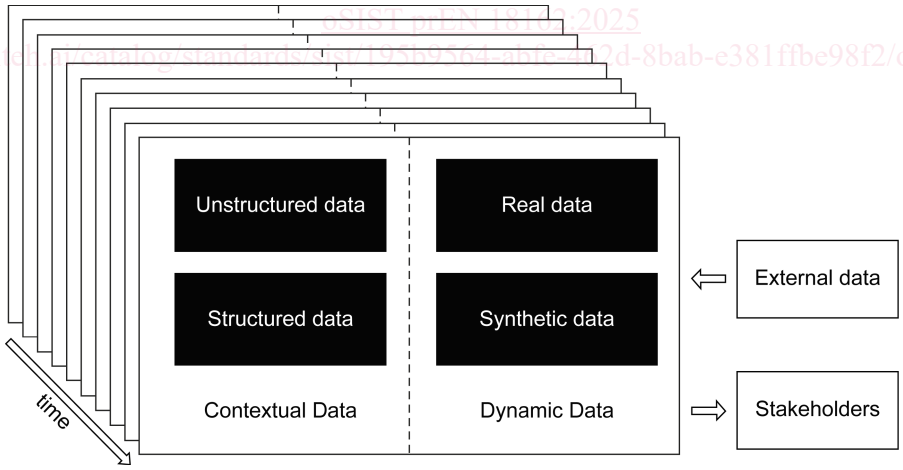

Figure 1 — Representation of the main types and subtypes of data