BSI Standards Publication

Buildings and constructed assets — Service life planning

Part 11: Terminology

National foreword

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A list of organizations represented on this committee can be obtained on request to its secretary.

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TECHNICAL REPORT

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Buildings and constructed assets — Service life planning —

Part 11:
Terminology

Bâtiments et biens immobiliers construits — Prévision de la durée de vie —

Partie 11: Terminologie

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 59, *Service life planning*, Subcommittee SC 14, *Design life*.

ISO 15686 consists of the following parts, under the general title *Buildings and civil engineering — Service life planning*:

— *Part 1: General principles and framework*

— *Part 2: Service life prediction procedures*

— *Part 3: Performance audits and reviews*

— *Part 4: Service Life Planning using Building Information Modelling*

— *Part 5: Life-cycle costing*

— *Part 7: Performance evaluation for feedback of service life data from practice*

— *Part 8: Reference service life and service-life estimation*

— *Part 9: Guidance on assessment of service-life data* [Technical Specification]

— *Part 10: When to assess functional performance*

— *Part 11: Terminology* [Technical Report]

The following part has been withdrawn:

— *Part 6: Procedures for considering environmental impacts*

Introduction

Concern has been expressed for many years over the lack of a comprehensive list of the terms and definitions for the different concepts applied within the ISO 15686 series of standards regarding design life and service life planning for buildings and civil engineering works.

This Technical Report is the result of the terminography and other terminology work that was undertaken within ISO/TC 59/SC 14 on Design life to establish consistent terminology for concepts related to the subject field of service life planning in buildings and civil engineering works.

The first edition of Part 1 of ISO 15686 was published in 2000, followed by Part 2 in 2001 and Part 3 in 2002. The publication of other parts followed in subsequent years, with the most recent new part, Part 10, being published in 2010. Revisions of the original parts started in 2009 and both Part 1 and Part 2 were republished in 2011 and 2012, respectively. These recent updates, along with the addition of several new parts over the past five years have led to some of the concepts being applied with more than one definition, which is leading to some confusion.

NOTE 1   ISO 1087-1, *Terminology work — Vocabulary — Part 1: Theory and application*, defines the concepts of terminology, terminology work and terminography as follows:

terminology

set of designations belonging to one special language

terminology work

work concerned with the systematic collection, description, processing and presentation of concepts and their designations

terminography

part of terminology work concerned with the recording and presentation of terminological data

NOTE 2   The work items undertaken on different subjects of standardization related to service life planning within ISO/TC 59/SC 14 and its working groups include both buildings and civil engineering works, collectively referred to using the designation construction works.

In 2005, a joint ISO/TC 59 meeting was held with members of a number of ISO/TC 59 SCs to discuss the common concerns and issues related to the preparation and use of terminology within a number of ISO/TC 59 Subcommittees. This included individuals also involved in the parallel standardization and terminology work going on within the European Committee for Standardization (CEN), under the technical committee CEN/TC 350 on *Sustainability of Construction Works* (Formerly CEN BT/WG174 *Integrated Environmental Performance of Buildings*). In addition to the CEN/TC 350 representation, the ISO/TC 59 subcommittees represented at the joint meeting were SC 2 – Terminology and harmonization of languages; SC 14 – *Design life*; SC 15 – *Performance criteria for single family attached and detached dwellings*; and SC 17 – *Sustainability in buildings and civil engineering works* (formerly *Sustainability in building construction*).

Subsequent to this joint meeting, an ISO/TC 59 Ad hoc Group (AHG) on Terminology was established. The AHG was directed to maintain close liaison on any terminology work occurring across the participating committees and to work to help resolve different terminology requirements within the different Subcommittees of ISO/TC 59 and CEN/TC 350. Also, it was acknowledged and agreed that the main terminology document on general concepts regarding buildings and civil engineering works, ISO 6707-1, which was developed by ISO/TC 59/SC2, would be used as the primary reference vocabulary for any of the work on terminology undertaken within all the Committees.

Individual representatives from the ISO/TC 59 Subcommittees (SC 2, SC 14, SC 15, SC 17) and the CEN/TC 350 committee were identified as members of the AHG to provide input and act as liaison on behalf of the various committees. A database of terms and definitions was developed as an initial working document, which was based on information submitted from the four ISO/TC 59 SCs involved as well as from the CEN/TC 350. The working list of terms and definitions generally included a mix of both

standardized ISO terms and definitions, as well as definitions that were contained in working drafts within the various Committees. A number of the AHG experts were involved with more than one of the targeted committees, which proved to be extremely beneficial, as it provided continuity within the discussions from meeting to meeting and committee to committee.

The database of terms and definitions developed by SC 14 on design life and service life planning was submitted to the AHG on terminology in September, 2006. To ensure that proper terminology (terms and definitions) are clearly delineated and understood for the concepts applied within both the existing and new Parts of ISO 15686, at the 2007 SC14 plenary meeting, a resolution was passed that SC14 work to develop a Technical Specification on service life planning terminology. The intent was that the TS would be used as a normative reference for the various parts of ISO 15686. In 2011, it was agreed that the document would instead take the form of a Technical Report.

As part of ISO 15686, this Technical Report compiles a complete set of the specific terms and definitions of concepts that have been applied and standardized in the documents developed to date under ISO/TC 59/SC 14 related to design life and service life planning in buildings and other types of construction works.

This Technical Report presents a mix of terms and definitions, some of which are repeated from other ISO publications.

The compilation of terms and definitions, and related abbreviations, included in Clause 3 of this Technical Report are for concepts that have been standardized and/or applied through publication of individual parts of ISO 15686 within ISO/TC 59/SC 14.

The gradual evolution of all of these concepts inevitably means that the "service life planning in buildings and civil engineering works" terminology will continue to develop and that therefore this document might be subject to regular revision and updating. As a resumé of terms and definitions in this domain, this Technical Report provides a resource for any future standardization in a general vocabulary. It is expected that the information contained within this Technical Report might be given further consideration within ISO/TC 59 SC 2 on Terminology and harmonization of languages for possible inclusion in a part of the ISO 6707 series.

Buildings and constructed assets — Service life planning —

Part 11: Terminology

1 Scope

This Technical Report provides a compilation of the terms and definitions of concepts that have been standardized to establish a vocabulary applicable to the aspects of both the construction and use of a building or civil engineering works and the service life planning of the same, as applied in the documents of ISO/TC 59/SC 14 *Design life*.

This Technical Report consists of terms and definitions included in the different parts of ISO 15686, along with their abbreviated designations, where applicable.

The terms and definitions of concepts listed in Clause 3, along with any relevant abbreviated designations, include those representing concepts that have been standardized and/or applied within SC 14, as well as a number of others that have originally been developed elsewhere within the ISO technical structure. A cross reference is included in each of the definitions to the specific part of ISO 15686 in which the concept is defined, as well as to the International Standard (s) from where the definition originates, unless otherwise noted.

2 Vocabulary structure

The terms are generally presented alphabetically except that, in some cases, they are arranged and numbered within generic relations to allow ready comparison of related concepts. Where a given term designates more than one concept, each concept has been treated in a separate entry.

As recommended in ISO 10241-1, in a definition, example or note, reference to another listed entry (concept) is highlighted in italics and followed by the entry number in brackets, when it is first mentioned. In the case of those terms and definitions for concepts that originate from other referenced sources and are specifically listed within Clause 3, the entry numbers cross-referenced coincide with the term entries in this document and not the source document. In the case of cross-referencing those terms and definitions for concepts that originate from other referenced sources, but are not specifically listed within Clause 3, both the source document and related entry numbers within that source are cross-referenced.

NOTE 1   With the mixed structure used in Clause 3, the term-entry numbering does not exactly follow the format recommended in the ISO/IEC Directives, Part 2 or ISO 10241-1.

NOTE 2   Cross-references within the terminological data in Clause 3 to terms and definitions contained in other referenced ISO documents is in addition to any references shown in the original ISO/TC 59/SC 14 documents and follows the format recommended ISO 10241-1:2011, 6.4.7.(b) regarding references to terms and symbols in definitions.

A term following the preferred term not given in boldface type is a non-preferred synonym.

For general terms and definitions related to buildings and civil engineering works, reference should also be made to ISO 6707-1.

For general terms and definitions related to environmental management systems and life cycle assessment, reference should also be made to the ISO 14050.

NOTE 3   The terminological entries are loaded on ISO's Online Browsing Platform (https://www.iso.org/obp/ui/). Search for 15686-11 and click on *Terms and definitions* to find the terms. Sort by term to find the terms in alphabetical order.

3   Terms and definitions

3.1   Terms relating to service life planning in buildings and civil engineering works

3.1.1
accelerated short-term exposure
short-term exposure (3.1.119) in which the *agent intensity* (3.1.6) is raised above the levels expected in service

[SOURCE: ISO 15686-2:2012, 3.1.1]

3.1.2
acquisition cost
all costs included in acquiring an *asset* (3.1.7.1)(3.1.7.2) by purchase/lease or construction *procurement* (ISO 10845-1:2010, 3.30) route, excluding costs during the occupation and use or end-of-life phases of the *life cycle* (3.1.60) of the *constructed asset* (3.1.15)

[SOURCE: ISO 15686-5:2008, 3.1.1]

3.1.3
ageing
degradation (3.1.17) due to long term influence of *agents* (3.1.5) related to use

[SOURCE: ISO 15686-2:2012, 3.1.2]

3.1.4
ageing exposure
procedure in which a *product* (ISO 6707-1:2014, 6.1.2)(3.1.92) is exposed to *agents* (3.1.5) believed or known to cause *ageing (3.1.3)* for the purpose of undertaking/initiating a *service life prediction (3.1.117)* or comparison of relative *performance* (3.1.78.1)(3.1.78.2)

[SOURCE: ISO 15686-2:2012, 3.1.3]

3.1.5
agent
whatever acts on a *building* (ISO 6707-1:2014, 3.1.3)(3.1.10) or its parts to adversely affect its *performance* (3.1.78.1)(3.1.78.2)

EXAMPLE   Person, water load, heat.

[SOURCE: ISO 15686-2:2012, 3.1.4]

3.1.6
agent intensity
measure (ISO 6707-1:2014, 9.1.7) of the extent to or level at which an *agent* (3.1.5) is present

Note 1 to entry: In ISO 15686-2, the term "agent intensity" refers figuratively to any quantity that conforms to the requirements for a measure; i.e. not only to UV radiation and rain intensity, etc., but also to relative humidity, SO_2 concentration, freeze–thaw rate and mechanical pressure, etc.

[SOURCE: ISO 15686-2:2012, 3.1.5]

3.1.7.1
asset
whole *building* (ISO 6707-1:2014, 3.1.3)(3.1.10) or *structure* (ISO 6707-1:2014, 3.1.4), system or a *component* (3.1.13) or part

[SOURCE: ISO 15686-5:2008, 3.4.1]

3.1.7.2
asset
whole *building* (ISO 6707-1:2014, 3.1.3)(3.1.10), *structure* (ISO 6707-1:2014, 3.1.4) or unit of *construction works* (ISO 6707-1:2014, 3.1.1), or a system or *component* (3.1.13) or part thereof

[SOURCE: ISO 15686-10:2010, 3.1]

3.1.8
availability
period(s) during which a *facility* (3.1.37) or service is serviceable

[SOURCE: ISO 15686-3:2002, 4.11]

3.1.9
behaviour in service
how a whole *building* (ISO 6707-1:2014, 3.1.3)(3.1.10), *structure* (ISO 6707-1:2014, 3.1.4) or unit of *construction works* (ISO 6707-1:2014, 3.1.1), or a system or *component* (3.1.13) or part thereof actually functions in its intended place and use

[SOURCE: ISO 15686-10:2010, 3.2]

3.1.10
building
construction works (ISO 6707-1:2014, 3.1.1) that has the provision of shelter for its occupants or contents as one of its main purposes and is usually enclosed and designed to stand permanently in one place

[SOURCE: ISO 15686-1:2011, 3.1]

3.1.11
capital cost
initial construction *costs* (ISO 6707-1:2014, 9.3.85) and the costs of initial adaptation where these are treated as capital expenditure

Note 1 to entry: The capital cost may be identical to the *acquisition cost* (3.1.2) if initial adaptation costs are not included.

[SOURCE: ISO 15686-5:2008, 3.1.2]

3.1.12
client
<construction> person or organization responsible for initiating and financing a project, and approving the brief

Note 1 to entry: Adapted from ISO 6707-1:2014, definition 8.3.

Note 2 to entry: In some countries, the role and qualification of "construction client" is defined by law and regulation, according to the scope and complexity of a project (see Reference[43]).

[SOURCE: ISO 15686-10:2010, 3.3]

3.1.13
component
product (ISO 6707-1:2014, 6.1.2) manufactured as a distinct unit to serve a specific *function* (3.1.43) or functions

[SOURCE: ISO 6707-1:2014, 6.1.3]

3.1.14
consequence degree
expression of the seriousness of consequences in relation to a defined reference level

[SOURCE: ISO 15686-7:2006, 3.1]

3.1.15
constructed asset
anything of value that is constructed or results from construction operations

[SOURCE: ISO 15686-1:2011, 3.2]

3.1.16
data record
set of *reference service life data* (3.1.102.1)(3.1.102.2)(3.1.102.3) compiled into a prescribed format

[SOURCE: ISO 15686-8:2008, 3.1]

3.1.17
degradation
process whereby an action on an item causes a deterioration of one or more *properties* (ISO 6707-1:2014, 9.1.3)

Note 1 to entry: Properties affected may/can be, for example, physical, mechanical or electrical.

[SOURCE: ISO 15686-8:2008, 3.4]

3.1.18
degradation indicator
deficiency which shows when a *performance characteristic* (3.1.80.1)(3.1.80.2) fails to conform to a requirement

EXAMPLE   When gloss is a performance characteristic, gloss loss is the corresponding degradation indicator. When mass (or thickness) is a performance characteristic, mass loss is the corresponding degradation indicator.

[SOURCE: ISO 15686-2:2012, 3.1.8]

3.1.19
demand
<of a facility> requirement for *functional performance* (3.1.44)

[SOURCE: ISO 15686-10:2010, 3.5]

3.1.20
design life
DL
DEPRECATED: intended service life
DEPRECATED: expected service life
service life (3.1.113.1)(3.1.113.2) intended by the designer

Note 1 to entry: As stated by the designer to the *client* (3.1.12) to support specification decisions.

[SOURCE: ISO 15686-1:2011, 3.3]

3.1.21
design option
one of several *product* (ISO 6707-1:2014, 6.1.2)(3.1.92) alternatives that is a candidate for inclusion into the design, including *functionality* (3.1.46) and service provided

[SOURCE: ISO 15686-6:2004, 3.2]

3.2.22
design team
individuals involved in the decision-making process affecting the *service life* ([3.1.113.1](#))([3.1.113.2](#)) of the *constructed asset* ([3.1.15](#))

[SOURCE: ISO 15686-6:2004, 3.3]

3.1.23
detailed design
drawings (ISO 6707-1:2014, 7.2.10), data, calculations and specifications from which constructed works, *components* ([3.1.13](#)) and *assemblies* (ISO 6707-1:2014, 5.5.5) can be constructed

[SOURCE: ISO 15686-3:2002, 4.5]

3.1.24
discount rate
factor or rate reflecting the *time value of money* ([3.1.127](#)) that is used to convert cash flows occurring at different times to a common time

Note 1 to entry: This can be used to convert future values to present-day values and vice versa.

[SOURCE: ISO 15686-5:2008, 3.3.1]

3.1.25
discounted cost
resulting cost when the *real cost* ([3.1.96](#)) is discounted by the *real discount rate* ([3.1.97](#)) or when the *nominal cost* ([3.1.71](#)) is discounted by the *nominal discount rate* ([3.1.72](#))

[SOURCE: ISO 15686-5:2008, 3.1.3]

3.1.26.1
disposal
<status change> transfer of ownership of, or responsibility for, the object of consideration

[SOURCE: ISO 15686-10:2010, 3.6]

3.1.26.2
disposal
<end of life> transformation of the state of a *building* (ISO 6707-1:2014, 3.1.3)([3.1.10](#)) or *facility* ([3.1.37](#)) that is no longer of use

Note 1 to entry: Transformation can include, either individually or in some combination, the decommissioning, deconstruction, recycling and demolition of the object of consideration.

[SOURCE: ISO 15686-10:2010, 3.7]

3.1.27
disposal cost
costs associated with *disposal* ([3.1.26.1](#))([3.1.26.2](#)) of the *asset* ([3.1.7.1](#))([3.1.7.2](#)) at the end of its *life cycle* ([3.1.60](#)), including taking account of any asset transfer obligations

Note 1 to entry: Asset transfer obligations could include bringing the assets up to a predefined condition.

Note 2 to entry: Income from selling the asset is part of *WLC* ([3.1.133](#)), where the *residual value* ([3.1.109](#)) of the building *components* ([3.1.13](#)), *materials* (ISO 6707-1:2014, 6.1.1) and appliances can be included.

[SOURCE: ISO 15686-5:2008, 3.1.4]

3.1.28
dose-response function
function that relates the dose(s) of a *degradation* ([3.1.17](#))*agent* ([3.1.5](#)) to a *degradation indicator* ([3.1.18](#))

[SOURCE: ISO 15686-2:2012, 3.1.9]

3.1.29
end-of-life cost
net cost or fee for disposing of an *asset* (3.1.7.1)(3.1.7.2) at the end of its *service life* (3.1.113.1)(3.1.113.2) or interest period, including costs resulting from decommissioning, deconstruction and demolition of a *building* (ISO 6707-1:2014, 3.1.3)(3.1.10), recycling, making environmentally safe and recovery and *disposal* (3.1.26.2) of *components* (3.1.13) and *materials* (ISO 6707-1:2014, 6.1.1), and transport and regulatory costs

[SOURCE: ISO 15686-5:2008, 3.1.5]

3.1.30
environment
natural, man-made or induced external and internal conditions that may influence *performance* (3.1.78.1) (3.1.78.2) and use of a *building* (ISO 6707-1:2014, 3.1.3)(3.1.10) and its parts

[SOURCE: ISO 6707-1:2014, 10.3, modified — to also apply to internal conditions and to remove reference to civil engineering works.]

3.1.31
environmental aspect
element of an *organization's* (ISO 14050:2009, 3.4) activities or *products* (ISO 14050:2009, 6.2)(3.1.92) or services that can interact with the *environment* (ISO 14050:2009, 3.1)(3.1.30)

[SOURCE: ISO 14001:2004, 3.6, modified — to remove the Note.]

3.1.32
environmental impact
any change to the *environment* (ISO 14050:2009, 3.1)(3.1.31), whether adverse or beneficial, wholly or partially resulting from an *organization's* (ISO 14050:2009, 3.4) *environmental aspects* (3.1.31)

[SOURCE: ISO 14001:2004, 3.7]

3.1.33
escalation rate
positive or negative factor or rate reflecting an estimate of differential increase/decrease in the general price level for a particular commodity, or group of commodities, or resource

Note 1 to entry: An escalation rate is derived by tracking the change in price over time of a single commodity, or group of commodities or resource, which might or might not be one of the items in the typical "basket" of goods that is used to derive a general *inflation/deflation* (3.1.49) factor.

[SOURCE: ISO 15686-5:2008, 8, 3.3.2]

3.3.2
escalation rate
positive or negative factor or rate reflecting an estimate of differential increase/decrease in the general price level for a particular commodity, or group of commodities, or resource
NOTE   An escalation rate is derived by tracking the change in price over time of a single commodity, group or commodities or resource, which might or might not be one of the items in the typical "basket" of goods that is used to derive a general inflation/deflation factor.

3.1.34
estimated service life
ESL
service life (3.1.113.1)(3.1.113.2) that a *building* (ISO 6707-1:2014, 3.1.3)(3.1.10) or parts of a building would be expected to have in a set of specific *in-use conditions* (3.1.53.1)(3.1.53.2)(3.1.53.3), determined from the *reference service life data* (3.1.102.1)(3.1.102.2)(3.1.102.3) after taking into account any differences from the *reference in-use conditions* (3.1.100)

[SOURCE: ISO 15686-1:2011, 3.7]

3.1.35
external costs
costs associated with an *asset* ([3.1.7.1](#))([3.1.7.2](#)) that are not necessarily reflected in the transaction costs between provider and consumer and that, collectively, are referred to as *externalities* ([3.1.36](#))

Note 1 to entry: These costs may include business staffing, productivity and *user* ([3.1.131](#)) costs; these can be taken into account in a *LCC* ([3.1.62](#)) analysis but should be explicitly identified.

[SOURCE: ISO 15686-5:2008, 3.1.6]

3.1.36
externality
quantifiable cost or benefit that occurs when the actions of organizations and individuals have an effect on people other than themselves

EXAMPLE   Non-construction costs, income and wider social and business costs.

Note 1 to entry: Externalities are positive if their effects are benefits to other people and negative, or *external costs* ([3.1.35](#)), if the external effects are costs on other people. There may be external costs and benefits from both production and consumption. Adding the externality to the private cost/benefit, the total social cost or benefit.

[SOURCE: ISO 15686-5:2008, 3.4.2]

3.1.37
facility
physical setting used to serve a specific purpose

Note 1 to entry: A facility may be part of a *building* (ISO 6707-1:2014, 3.1.3)([3.1.10](#)), a whole building or more than one building, and may include related constructions (such as roads and walkways), which, taken as a whole, serve a specific *function* ([3.1.43](#)).

Note 2 to entry: The term encompasses both the physical object(s) and its (their) use.

[SOURCE: ISO 15686-10:2010, 3.8]

3.1.38
factor category
category of *in-use conditions* ([3.1.53.1](#))([3.1.53.2](#))([3.1.53.3](#)) that are considered in the determination of an *ESL* ([3.1.34](#)) from an *RSL* ([3.1.101.1](#))([3.1.101.2](#))

EXAMPLE 1   Inherent performance level, design level, work execution level, indoor environment, outdoor environment, *usage conditions* ([3.1.130.2](#)) and maintenance level.

EXAMPLE 2   In-use conditions, such as temperature and moisture level, can be considered under the factor category, outdoor environment, in determining factor E.

Note 1 to entry: Factor categories are used in the *factor method* ([3.1.40](#)) to determine the factors A to G, and can be applicable in a similar way in any feasible alternative method.

[SOURCE: ISO 15686-8:2008, 3.2]

3.1.39
factor class
label of an *in-use condition* ([3.1.53.1](#))([3.1.53.2](#))([3.1.53.3](#)) indicating which factor of the *factor method* ([3.1.40](#)) the condition will influence

[SOURCE: ISO 15686-7:2006, 3.16]

3.1.40
factor method
modification of *reference service life* ([3.1.101.1](#))([3.1.101.2](#)) by factors to take account of the specific *in-use conditions* ([3.1.53.1](#))([3.1.53.2](#))([3.1.53.3](#))

[SOURCE: ISO 15686-1:2011, 3.8]

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3.1.41
failure
loss of the ability of a *building* (ISO 6707-1:2014, 3.1.3)([3.1.10](#)) or its parts to perform a specific *function* ([3.1.43](#))

[SOURCE: ISO 15686-1:2011, 3.9]

3.1.42
feature
element or attribute of a *facility* ([3.1.37](#)) that indicates an aspect of its *serviceability* ([3.1.118.2](#))

[SOURCE: ISO 15686-10:2010, 3.9]

3.1.43
function
purpose or activity of *users* ([3.1.131](#)) and other *stakeholders* ([3.1.120](#)) for which an *asset* ([3.1.7.1](#))([3.1.7.2](#)) or a *facility* ([3.1.37](#)) is designed, used, or required to be used

[SOURCE: ISO 15686-10:2010, 3.10]

3.1.44
functional performance
<of a facility> *performance* ([3.1.78.1](#))([3.1.78.2](#)) of a *facility* ([3.1.37](#)) to support required *function(s)* ([3.1.43](#)) under specified use conditions

[SOURCE: ISO 15686-10:2010, 3.11]

3.1.45
functional performance requirement
type and *level of functionality* ([3.1.56](#)) that is required by *stakeholders* ([3.1.120](#)) of a *facility* ([3.1.37](#)), *building* (ISO 6707-1:2014, 3.1.3)([3.1.10](#)) or other *constructed asset* ([3.1.15](#)), or of an *assembly* (ISO 6707-1:2014, 5.5.5), *component* ([3.1.13](#)) or *product* (ISO 6707-1:2014, 6.1.2)([3.1.92](#)) thereof, or a moveable *asset* ([3.1.7.1](#)) ([3.1.7.2](#)) for a specific *function* ([3.1.43](#))

[SOURCE: ISO 15686-10:2010, 3.12]

3.1.46
functionality
suitability ([3.1.121](#)) or usefulness for a specific purpose or activity

[SOURCE: ISO 15686-10:2010, 3.13]

3.1.47
gap
difference between the *level of functionality* ([3.1.56](#)) (or other attribute) that is required and the *level of serviceability* ([3.1.58](#)) [*capability* (ISO 6707-1:2014, 9.1.11)] that is or will be provided

[SOURCE: ISO 15686-10:2010, 3.14]

3.1.48
general data
data of any format related to *service life* ([3.1.113.1](#))([3.1.113.2](#)) as opposed to *reference service life data* ([3.1.102.1](#))([3.1.102.2](#)) ([3.1.102.3](#))

[SOURCE: ISO 15686-8:2008, 3.3]

3.1.49
inflation/deflation
sustained increase/decrease in the general price level

Note 1 to entry: Inflation/deflation can be measured monthly, quarterly or annually against a known index.

[SOURCE: ISO 15686-5:2008, 3.3.3]

3.1.50
initial design
early stage in the development of a design before many of the *materials* (ISO 6707-1:2014, 6.1.1), *components* ([3.1.13](#)) or *assemblies* (ISO 6707-1:2014, 5.5.5) have been selected

[SOURCE: ISO 15686-3:2002, 4.4]

3.1.51
inspection of buildings
performance evaluation ([3.1.83](#)) or assessment of residual *service life* ([3.1.113.1](#))([3.1.113.2](#)) of building parts in existing *buildings* (ISO 6707-1:2014, 3.1.3)([3.1.10](#))

[SOURCE: ISO 15686-2:2012, 3.1.10]

3.1.52
intangible
quantifiable cost and benefit that have been allocated monetary values for calculation purposes

[SOURCE: ISO 15686-5:2008, 3.4.3]

3.1.53.1
in-use condition
any circumstance that can impact on the *performance* ([3.1.78.1](#))([3.1.78.2](#)) of a *building* (ISO 6707-1:2014, 3.1.3)([3.1.10](#)) or a *constructed asset* ([3.1.15](#)), or a part thereof, under normal use

[SOURCE: ISO 15686-1:2011, 3.10]

3.1.53.2
in-use condition
any circumstance that contributes to or causes the *degradation* ([3.1.17](#)) of a *building* (ISO 6707-1:2014, 3.1.3)([3.1.10](#))/ *constructed assets* ([3.1.15](#)) or a part of it under normal use

Note 1 to entry: In order to encompass all of the seven *factor classes* ([3.1.39](#)) of the *factor method* ([3.1.40](#)), this definition has been extended relative to that given in ISO 15686-2:2001, 3.3.5, thus being in accordance with ISO 15686-1:2000, 3.1.2, where "in-use condition" is referred to as influencing any of the seven factors.

[SOURCE: ISO 15686-7:2006, 3.14]

3.1.53.3
in-use condition
any circumstance that can impact the *performance* ([3.1.78.1](#))([3.1.78.2](#)) of a *building* (ISO 6707-1:2014, 3.1.3)([3.1.10](#)) or a *constructed asset* ([3.1.15](#)), or a part thereof under normal use

Note 1 to entry: In order to encompass all of the seven factors and their related *factor categories* ([3.1.38](#)), this definition is an extended version of the definition given in ISO 15686-2:2001, 3.3.5, [thus being in accordance with ISO 15686-1:2000, 3.1.2, where "in-use condition" is referred to as influencing any of the seven factors of the *factor method* ([3.1.40](#))].

[SOURCE: ISO 15686-8:2008, 3.5]

3.1.54.1
in-use condition grade
outcome of an *in-use condition grading* ([3.1.55.1](#))([3.1.55.2](#))

[SOURCE: ISO 15686-7:2006, 3.18]

3.1.54.2
in-use condition grade
designation representing a qualitative description of an *in-use condition* ([3.1.53.1](#))([3.1.53.2](#))([3.1.53.3](#))

Note 1 to entry: An in-use condition grade is the outcome of the *in-use condition grading* ([3.1.55.1](#))([3.1.55.2](#)).

Note 2 to entry: In-use condition grades are designated qualitatively in terms of not available, very high/very mild, high/mild, normal, low/severe, very low/very severe and not applicable.

Note 3 to entry: In-use condition grades are designated numerically using numbers in the range from 0 to 5, with 3 representing a "normal" condition.

[SOURCE: ISO 15686-8:2008, 3.7]

3.1.55.1
in-use condition grading
act of collective judgement of all qualitative information of *in-use conditions* (3.1.53.1)(3.1.53.2)(3.1.53.3) within a *factor class* (3.1.39)

[SOURCE: ISO 15686-7:2006, 3.17]

3.1.55.2
in-use condition grading
act of applying collective judgment of all qualitative information of an *in-use condition* (3.1.53.1)(3.1.53.2) (3.1.53.3) within a *factor category* (3.1.38)

[SOURCE: ISO 15686-8:2008, 3.6]

3.1.56
level of functionality
number indicating the relative *functionality* (3.1.46) required for a *user* (3.1.131) group or customer for one *topic* (3.1.128) on a predetermined demand *scale* (3.1.111.2) from the level of the least (functionality) to the level of the most (functionality)

EXAMPLE   Scale of integers from 0 to 9.

Note 1 to entry: The level of functionality may be the consequence of several distinct functions (3.1.43) required to act in combination.

[SOURCE: ISO 15686-10:2010, 3.15]

3.1.57
level of performance
number indicating the relative *performance* (3.1.78.1)(3.1.78.2) required or provided for one *topic* (3.1.128) on a predetermined *scale* (3.1.111.1) from the level of the least (performance) to the level of the most (performance)

EXAMPLE   Scale of integers from 0 to 9.

Note 1 to entry: The level of performance may be the consequence of several distinct performances [*behaviours in service* (3.1.9)], of which one may be *functional performance* (3.1.44), which act in combination.

[SOURCE: ISO 15686-10:2010, 3.16]

3.1.58
level of serviceability
number indicating the relative *serviceability* (3.1.118.2) [*capability* (ISO 6707-1:2014, 9.1.11) of a *facility* (3.1.37)] for a *user* (3.1.131) group or customer for one *topic* (3.1.128) on a predetermined supply *scale* (3.1.111.3) from the level of least (serviceability) to the most (serviceability)

EXAMPLE   Scale of integers from 0 to 9.

Note 1 to entry: The level of serviceability may be the consequence of several distinct physical *features* (3.1.42) acting in combination.

[SOURCE: ISO 15686-10:2010, 3.17]

3.1.59
life care
measures that promote achievement of the *design life* (3.1.20), including cleaning, *maintenance* (3.1.65), servicing, *repair* (3.1.107), *refurbishment* (3.1.103), *protection* (ISO 6707-1:2014, 9.3.86), control of use and avoidance of neglect

[SOURCE: ISO 15686-3:2002, 4.6]

3.1.60
life cycle
consecutive and interlinked stages of the object under consideration

Note 1 to entry: The life cycle comprises all stages from construction, operation and *maintenance* (3.1.65) to end of life, including decommissioning, deconstruction and *disposal* (3.1.26.2).

Note 2 to entry: Adapted from the definition of "life cycle" contained in ISO 14040, 7.1.

[SOURCE: ISO 15686-5:2008, 3.3.4]

3.1.61
life cycle assessment
LCA
method of measuring and evaluating the *environmental impacts* (3.1.32) associated with a *product* (ISO 14050:2009, 6.2)(ISO 6707-1:2014, 6.1.2)(3.1.92), system or activity, by describing and assessing the energy and *materials* (ISO 6707-1:2014, 6.1.1) used and released to the *environment* (ISO 14050:2009, 3.1)(3.1.30) over the *life cycle* (3.1.60)

[SOURCE: ISO 15686-5:2008, 3.2.1]

3.1.62
life-cycle cost
LCC
cost of an *asset* (3.1.7.1)(3.1.7.2) or its parts throughout its *life cycle* (3.1.60), while fulfilling the *performance requirements* (ISO 6707-1:2014, 9.1.16)(3.1.85.2)

[SOURCE: ISO 15686-5:2008, 3.1.7]

3.1.63.1
life-cycle costing
methodology for systematic economic evaluation of *life-cycle costs* (3.1.62) over a *period of analysis* (3.1.87), as defined in the agreed scope

Note 1 to entry: Life-cycle costing can address a period of analysis that covers the entire *life cycle* (3.1.60) or (a) selected stage(s) or (b) periods of interest thereof.

[SOURCE: ISO 15686-5:2008, 3.1.8]

3.1.63.2
life-cycle costing
methodology for systematic economic evaluation of *life-cycle costs* (3.1.62) over a *period of analysis* (3.1.87), as defined in the agreed scope

[SOURCE: ISO 15686-5:2008, 3.1.8, modified — to remove the Note.]

3.1.64
long-term exposure
ageing exposure (3.1.4) under *in-use conditions* (3.1.53.1)(3.1.53.2)(3.1.53.3) and with a duration of the same order as the *service life* (3.1.113.1)(3.1.113.2) anticipated

[SOURCE: ISO 15686-2:2012, 3.1.12]

3.1.65
maintenance
combination of all technical and associated administrative actions during the *service life* (3.1.113.1) (3.1.113.2) to retain a building, or its parts, in a state in which it can perform its required *functions* (3.1.43)

[SOURCE: ISO 6707-1:2014, 7.1.41, modified — to also apply in the broad context of the service life of a whole building.]

3.1.66
maintenance cost
total of necessarily incurred labour, *material* (ISO 6707-1:2014, 6.1.1) and other related *costs* (ISO 6707-1:2014, 9.3.85) incurred to retain a *building* (ISO 6707-1:2014, 3.1.3)(3.1.10) or its parts in a state in which it can perform its required *functions* (3.1.43)

Note 1 to entry: Maintenance (3.1.65) includes conducting corrective, responsive and preventative maintenance on *constructed assets* (3.1.15), or their parts, and includes all associated management, cleaning, servicing, repainting, *repairing* (3.1.107) and replacing of parts where needed to allow the constructed asset to be used for its intended purposes.

[SOURCE: ISO 15686-5:2008, 3.1.9]

3.1.67
mechanism
process causing change over time in the composition or micro-structure of a *component* (3.1.13) or *material* (ISO 6707-1:2014, 6.1.1) that can cause *degradation* (3.1.17)

[SOURCE: ISO 15686-2:2012, 3.1.13]

3.1.68
net present cost
NPC
sum of the discounted future costs

[SOURCE: ISO 15686-5:2008, 3.2.3]

3.1.69
net present value
NPV
sum of the discounted future cash flows

Note 1 to entry: Where only costs are included, this may be termed *net present cost* (3.1.68)

Note 2 to entry: This is the standard criterion for deciding whether an option can be justified on economic principles, but other techniques are also used.

[SOURCE: ISO 15686-5:2008, 3.2.2]

3.1.70
network level
stock of objects [*facilities* (3.1.37), e.g. *bridges* (ISO 6707-1:2014, 3.3.19), *tunnels* (ISO 6707-1:2014, 3.3.18), power plants, *buildings* (ISO 6707-1:2014, 3.1.3)(3.1.10)] under management of an owner

[SOURCE: ISO 15686-7:2006, 3.2]

3.1.71
nominal cost
expected price that will be paid when a cost is due to be paid, including estimated changes in price due to, for example, forecast change in efficiency, *inflation* (3.1.49) or *deflation* (3.1.49) and technology

[SOURCE: ISO 15686-5:2008, 3.1.10]

3.1.72
nominal discount rate
factor or rate used to relate present and future money values in comparable terms taking into account the general *inflation/deflation* (3.1.49) rate

[SOURCE: ISO 15686-5:2008, 3.3.5]

3.1.73
nonconformity
non-fulfilment of specified requirements

[SOURCE: ISO 15686-3:2002, 4.12]

3.1.74
object level
basic level of the network serving a specific *function* (3.1.43)

[SOURCE: ISO 15686-7:2006, 3.3]

3.1.75
observation
statement of fact made during an *audit* (3.1.114) or *review* (3.1.115) and substantiated by objective evidence

[SOURCE: ISO 15686-3:2002, 4.13]

3.1.76.1
obsolescence
loss of ability of an item to perform satisfactorily due to changes in *performance requirements* (ISO 6707-1:2014, 9.1.16)(3.1.85.1)

[SOURCE: ISO 15686-1:2011, 3.14]

3.1.76.2
obsolescence
<of a facility> inability of a *facility* (3.1.37) or *component* (3.1.13) thereof to perform satisfactorily due to changes in *performance requirements* (ISO 6707-1:2014, 9.1.16)(3.1.85.2)

[SOURCE: ISO 15686-10:2010, 3.18]

3.1.77
operation cost
costs incurred in running and managing the *facility* (3.1.37) or *built environment* (ISO 15392:2008, 3.5), including administrative support services

Note 1 to entry: Operation costs could include rent, rates, insurances, energy and other environmental/ regulatory inspection costs, local fees and charges.

[SOURCE: ISO 15686-5:2008, 3.1.11]

3.1.78.1
performance
performance in-use
qualitative level of a critical *property* (ISO 6707-1:2014, 9.1.3) at any point in time considered

[SOURCE: ISO 15686-1:2011, 3.15]

3.1.78.2
performance
<of a facility> *behaviour in service* (3.1.9) of a *facility* (3.1.37) for a specified use

Note 1 to entry: The scope of this performance is of the facility as a system, including its subsystems, *components* (3.1.13) and *materials* (ISO 6707-1:2014, 6.1.1), and their interactions, such as acoustical, hygrothermal, economic and so on, as well as the *relative importance* (3.1.104) of each *performance requirement* (ISO 6707-1:2014, 9.1.16) (3.1.85.2).

[SOURCE: ISO 15686-10:2010, 3.19]

3.1.79
performance assessment
all material that accounts for an item's *performance* (3.1.78.1)(3.1.78.2) throughout its *service life* (3.1.113.1)(3.1.113.2)

[SOURCE: ISO 15686-7:2006, 3.5]

3.1.80.1
performance characteristic
physical quantity that is related to a critical *property* (ISO 6707-1:2014, 9.1.3)

Note 1 to entry: In some cases, the performance characteristic can be the same as the critical property, e.g. gloss. On the other hand, if the critical property is strength, for instance, *thickness* (ISO 6707-1:2014, 9.2.24) or mass can be utilized as a performance characteristic, working as an indirect *measure* (ISO 6707-1:2014, 9.1.7) of strength.

[SOURCE: ISO 15686-1:2011, 3.16]

3.1.80.2
performance characteristic
physical quantity that is a *measure* (ISO 6707-1:2014, 9.1.7) of a critical *property* (ISO 6707-1:2014, 9.1.3)

EXAMPLE   A performance characteristic can be the same as the critical property, for instance reflectance. On the other hand, if the critical property is strength, the *thickness* (ISO 6707-1:2014, 9.2.24) or mass can in certain cases be utilized as a performance characteristic.

[SOURCE: ISO 15686-2:2012, 3.1.14]

3.1.81
performance control
comparison between *performance* (3.1.78.1)(3.1.78.2) and defined requirements

[SOURCE: ISO 15686-7:2006, 3.7]

3.1.82
performance degree
expression of the *performance* (3.1.78.1)(3.1.78.2) of an item in relation to a defined reference level

[SOURCE: ISO 15686-7:2006, 3.6]

3.1.83
performance evaluation
evaluation of critical *properties* (ISO 6707-1:2014, 9.1.3) on the basis of *measurement* (ISO 6707-1:2014, 9.1.6) and inspection

[SOURCE: ISO 15686-1:2011, 3.17]

3.1.84
performance over time
description of how a critical *property* (ISO 6707-1:2014, 9.1.3) varies with time

[SOURCE: ISO 15686-1:2011, 3.18]

3.1.85.1
performance requirement
performance criterion
minimum acceptable level of a critical *property* (ISO 6707-1:2014, 9.1.3)

[SOURCE: ISO 15686-1:2011, 3.19]

3.1.85.2
performance requirement
performance ([3.1.78.1](3.1.78.1))([3.1.78.2](3.1.78.2)) demanded or expected of a *facility* ([3.1.37](3.1.37)) for a specified use

[SOURCE: ISO 6707-1:2014, 9.1.16, modified — to apply to the requirements for a specific use of a facility.]

3.1.86
performance survey
total survey (defining of the task, planning, examination, evaluation and reporting) at a given time in accordance with ISO 15686-7

[SOURCE: ISO 15686-7:2006, 3.4]

3.1.87
period of analysis
period of time over which *life-cycle costs* ([3.1.62](3.1.62)) or *whole-life costs* ([3.1.133](3.1.133)) are analysed

Note 1 to entry: The period of analysis is determined by the *client* ([3.1.12](3.1.12)).

[SOURCE: ISO 15686-5:2008, 3.3.6]

3.1.88
pre-briefing
earliest stage in the consideration of a construction project when the need for constructed works is assessed and the *suitability* ([3.1.121](3.1.121)) of *sites* (ISO 6707-1:2014, 3.1.6) is assessed

[SOURCE: ISO 15686-3:2002, 4.3]

3.1.89.1
predicted service life
service life ([3.1.113.1](3.1.113.1))([3.1.113.2](3.1.113.2)) predicted from recorded *performance over time* ([3.1.84](3.1.84))

EXAMPLE   As found in service life models or *ageing* ([3.1.3](3.1.3)) tests.

[SOURCE: ISO 15686-2:2012, 3.1.16]

3.1.89.2
predicted service life
service life ([3.1.113.1](3.1.113.1))([3.1.113.2](3.1.113.2)) predicted from *performance* ([3.1.78.1](3.1.78.1))([3.1.78.2](3.1.78.2)) recorded over time in accordance with the procedure described in ISO 15686-2

[SOURCE: ISO 15686-1:2011, 3.20]

3.1.90
predicted service life distribution
probability distribution function of the *predicted service life* ([3.1.89.1](3.1.89.1))

[SOURCE: ISO 15686-2:2012, 3.1.17]

3.1.91
present-day value
PDV
monies accruing in the future which have been discounted to account for the fact that they are worth less at the time of calculation

[SOURCE: ISO 15686-5:2008, 3.2.4]

3.1.92
product
produce of the building sector, from *materials* (ISO 6707-1:2014, 6.1.1) through *components* ([3.1.13](#)), elements and systems to entire *buildings* (ISO 6707-1:2014, 3.1.3)([3.1.10](#)) and *constructed assets* ([3.1.15](#))

[SOURCE: ISO 15686-6:2004, 3.1]

3.1.93
profile
<of a facility> list of the *levels of functionality* ([3.1.56](#)) required by *stakeholders* ([3.1.120](#)) for a *facility* ([3.1.37](#)), or the *levels of serviceability (3.1.58)* provided by a facility, related to various *topics* ([3.1.128](#))

[SOURCE: ISO 15686-10:2010, 3.21]

3.1.94
rater
individual who conducts the *rating* ([3.1.95](#)) of a *facility* ([3.1.37](#)), or of the design of a facility, to determine its *profile* ([3.1.93](#)) of *serviceability* ([3.1.118.2](#))

[SOURCE: ISO 15686-10:2010, 3.22]

3.1.95
rating
process of determining the *serviceability* ([3.1.118.2](#)) of a *constructed asset* ([3.1.15](#)) or of an *asset* ([3.1.7.1](#))([3.1.7.2](#)) that has been designed, but not yet built

[SOURCE: ISO 15686-10:2010, 3.23]

3.1.96
real cost
cost expressed as a value as at the base date, including estimated changes in price due to forecast changes in efficiency and technology, but excluding general price *inflation* ([3.1.49](#)) or *deflation* ([3.1.49](#))

[SOURCE: ISO 15686-5:2008, 3.1.12]

3.1.97
real discount rate
factor or rate used to relate present and future money values in comparable terms, not taking into account the general or specific *inflation* ([3.1.49](#)) in the cost of a particular *asset* ([3.1.7.1](#))([3.1.7.2](#)) under consideration

[SOURCE: ISO 15686-5:2008, 3.3.7]

3.1.98
recovery management
planning and control procedures designed to maximize the economic reuse of resources committed to a constructed works project

[SOURCE: ISO 15686-3:2002, 4.7]

3.1.99
reference document
project document and other supporting evidence, provided for auditing and/or review purposes that demonstrate the project team's response to the *service life* ([3.1.113.1](#))([3.1.113.2](#)) *performance requirements* (ISO 6707-1:2014, 9.1.16) in the project brief

[SOURCE: ISO 15686-3:2002, 4.8]

3.1.100
reference in-use condition
in-use condition ([3.1.53.1](#))([3.1.53.2](#))([3.1.53.3](#)) under which the *reference service life data* ([3.1.102.1](#)) ([3.1.102.2](#))([3.1.102.3](#)) are valid

Note 1 to entry: The reference in-use conditions can be based upon information gathered through testing or from recorded *performance* ([3.1.78.1](#))([3.1.78.2](#)) and actual service life data of a *component* ([3.1.13](#)).

[SOURCE: ISO 15686-8:2008, 3.9]

[SOURCE: ISO 15686-1:2011, 3.21]

3.1.101.1
reference service life
RSL
service life ([3.1.113.1](#))([3.1.113.2](#)) of a *product* (ISO 6707-1:2014, 6.1.2)([3.1.92](#)), *component* ([3.1.13](#)), *assembly* (ISO 6707-1:2014, 5.5.5) or system which is known to be expected under a particular set, i.e. a reference set, of *in-use conditions* ([3.1.53.1](#))([3.1.53.2](#))([3.1.53.3](#)) and which can form the basis for estimating the service life under other in-use conditions

[SOURCE: ISO 15686-1:2011, 3.22]

3.1.101.2
reference service life
RSL
service life ([3.1.113.1](#))([3.1.113.2](#)) of a *component* ([3.1.13](#)) which is known to be expected under a particular set, i.e. a reference set, of *in-use conditions* ([3.1.53.1](#))([3.1.53.2](#))([3.1.53.3](#)), and which may form the basis of estimating the service life under other in-use conditions

[SOURCE: ISO/TS 15686-9:2008, 3.2]

3.1.102.1
reference service life data
RSL data
information that includes the *reference service life* ([3.1.101.1](#))([3.1.101.2](#)) and any qualitative or quantitative data describing the validity of the reference service life

Note 1 to entry: The RSL data are reported in a *data record* ([3.1.16](#)).

Note 2 to entry: Typical data describing the validity of the RSL include the description of the *component* ([3.1.13](#)) to which it applies, the *reference in-use conditions* ([3.1.100](#)) under which it applies, and its quality

[SOURCE: ISO 15686-1:2011, 3.23]

3.1.102.2
reference service life data
information that includes the *reference service life* ([3.1.101.1](#))([3.1.101.2](#)) and any qualitative or quantitative data describing the validity of the reference service life

EXAMPLE   Typical data describing the validity of the RSL include the description of the *component* ([3.1.13](#)) for which they apply, the *reference in-use condition(s)* ([3.1.100](#)) under which they apply, and their quality.

Note 1 to entry: The RSL data are reported in a *data record* ([3.1.16](#)).

Note 2 to entry: "Service life" and "reference service life" will be defined in the future ISO/TS 15686-9.

[SOURCE: ISO 15686-8:2008, 3.8]

3.1.102.3
reference service life data
information that includes the *reference service life* ([3.1.101.1](#))([3.1.101.2](#)) and any qualitative or quantitative data describing the validity of the reference service life

EXAMPLE   Typical data describing the validity of the RSL include the description of the *component* ([3.1.13](#)) for which they apply, the *reference in-use condition(s)* ([3.1.100](#)) under which they apply, and their quality.

Note 1 to entry: The RSL data are reported in a *data record* ([3.1.16](#))

[SOURCE: ISO/TS 15686-9:2008, 3.3]

3.1.103
refurbishment
modification and improvements to an existing item to bring it up to an acceptable condition

[SOURCE: ISO 6707-1:2014, 7.1.50, modified — to apply the concept to a specific item versus plant, building or civil engineering works.]

3.1.104
relative importance
importance of any one *topic* ([3.1.128](#)) of *functionality* ([3.1.46](#)) for the operations or mission of the *users* ([3.1.131](#))

[SOURCE: ISO 15686-10:2010, 3.24]

3.1.105
reliability
probability that a *component* ([3.1.13](#)), *assembly* (ISO 6707-1:2014, 5.5.5) or system will perform its intended *function* ([3.1.43](#)) under stated conditions for a stated period of time

[SOURCE: ISO 15686-3:2002, 4.9]

3.1.106
renewal
demolition and rebuilding of an existing item

[SOURCE: ISO 15686-7:2006, 3.10]

3.1.107
repair
return a *product* (ISO 6707-1:2014, 6.1.2)([3.1.92](#))/*component* ([3.1.13](#))/*assembly* (ISO 6707-1:2014, 5.5.5)/ system to an acceptable condition by *renewal* ([3.1.106](#)), *replacement* ([3.1.108](#)) or mending of worn, damaged or degraded parts

[SOURCE: ISO 6707-1:2014, 7.1.52, modified — to apply specifically to a product, component, assembly or system.]

3.1.108
replacement
change of parts of an existing item to regain its *functionality* ([3.1.46](#))

[SOURCE: ISO 15686-7:2006, 3.11]

3.1.109
residual value
value assigned to an *asset* ([3.1.7.1](#))([3.1.7.2](#)) at the end of the *period of analysis* ([3.1.87](#))

[SOURCE: ISO 15686-5:2008, 3.3.8]

3.1.110.1
risk
likelihood of the occurrence of an event or *failure* (3.1.41) and the consequences or impact of that event or failure

[SOURCE: ISO 15686-5:2008, 3.4.4]

3.1.110.2
risk
probability of an event (e.g. *failure* (3.1.41), damage) multiplied by its consequences (e.g. cost, fatalities, exposure to personal or environmental hazard)

[SOURCE: ISO 15686-7:2006, 3.12]

3.1.111.1
scale
single set of statements in which intervals between statements, from the most to least, are calibrated according to scalar rules

Note 1 to entry: When people are asked to select one of the statements in a *scale* (3.1.111.2)(3.1.111.3) as most closely describing the *level of functionality* (3.1.56) required, or as best describing which physical *features* (3.1.42) are present in a *facility* (3.1.37), the scale, in effect, functions as a multiple choice questionnaire.

Note 2 to entry: There are homographs for the term "scale". See 3.1.111.2 and 3.1.111.3.

[SOURCE: ISO 15686-10:2010, 3.25]

3.1.111.2
scale
<demand> *scale* (3.1.111.1) for use in determining the *level of functionality* (3.1.56) of a *facility* (3.1.37) on one *topic* (3.1.128) of *functional performance* (3.1.44)

Note 1 to entry: There are homographs for the term "scale". See 3.1.111.1 and 3.1.111.3.

[SOURCE: ISO 15686-10:2010, 3.26]

3.1.111.3
scale
<supply> *scale* (3.1.111.1) for use in determining the *level of serviceability* (3.1.58) of a *facility* (3.1.37) on one *topic* (3.1.128) of *capability* (ISO 6707-1:2014, 9.1.11)

Note 1 to entry: There are homographs for the term 'scale'. See (3.1.111.1 and 3.1.111.2).

[SOURCE: ISO 15686-10:2010, 3.27]

3.1.112
sensitivity analysis
test of the outcome of an analysis by altering one or more parameters from initial value(s)

[SOURCE: ISO 15686-5:2008, 3.2.5]

3.1.113.1
service life
period of time after installation during which a *building* (ISO 6707-1:2014, 3.1.3)(3.1.10) or its parts meet or exceed the *performance requirements* (ISO 6707-1:2014, 9.1.16) [SOURCE: ISO 6707-1:2014, 9.3.83]

[SOURCE: ISO/TS 15686-9:2008, 3.4]

3.1.113.2
service life
period of time after installation during which a *facility* (3.1.37) or its *component* (3.1.13) parts meet(s) or exceed(s) the *performance requirements* (ISO 6707-1:2014, 9.1.16)(3.1.85.1)(3.1.85.2) [SOURCE: ISO 6707-1:2014, 9.3.83, modified — to apply the concept specifically to a facility(ies) and/or its component parts.] [ISO 15686-1:2011, 3.25]

[SOURCE: ISO 15686-10:2010, 3.28]

3.1.114
service life performance audit
systematic examination by an independent party of requirements, initial and *detailed design* (3.1.23) proposals, and instructions for installation, commissioning and *life care* (3.1.59), to determine their adequacy in relation to *service life* (3.1.113.1)(3.1.113.2) *performance* (3.1.78.1)(3.1.78.2)

Note 1 to entry: In this context, an 'independent party' is an individual or organization that is not directly accountable or responsible for the project activities being audited.

Note 2 to entry: A service life performance audit is not concerned with early *failures* (3.1.41) (within the normal contractual warranty period) that are caused by faulty design, manufacture, handling or installation.

[SOURCE: ISO 15686-3:2002, 4.1]

3.1.115
service life performance review
systematic second-party examination of requirements, initial and *detailed design* (3.1.23) proposals, and instructions for installation, commissioning and *life care* (3.1.59), to determine their adequacy in relation to *service life* (3.1.113.1)(3.1.113.2) *performance* (3.1.78.1)(3.1.78.2)

[SOURCE: ISO 15686-3:2002, 4.2]

3.1.116
service life planning
design process of preparing the brief and the design for the *building* (ISO 6707-1:2014, 3.1.3)(3.1.10) and its parts to achieve the *design life* (3.1.20)

Note 1 to entry: Service life planning can, for example, reduce the *costs* (ISO 6707-1:2014, 9.3.85) of building ownership and facilitate *maintenance* (3.1.65) and *refurbishment* (3.1.103)

[SOURCE: ISO 15686-1:2011, 3.24]

3.1.117
service life prediction
SLP
generic methodology which, for a particular or any appropriate *performance requirement* (ISO 6707-1:2014, 9.1.16)(3.1.85.2), facilitates a prediction of the *service life* (3.1.113.1)(3.1.113.2) distribution of a *building* (ISO 6707-1:2014, 3.1.3)(3.1.10) or its parts for the use in a particular or in any appropriate *environment* (ISO 14050:2009, 3.1)(3.1.30)

[SOURCE: ISO 15686-2:2012, 3.1.18]

3.1.118.1
serviceability
ability to meet or exceed relevant *performance requirements* (ISO 6707-1:2014, 9.1.16) [SOURCE: ISO 6707-1:2014, 9.3.84]

[SOURCE: ISO 15686-3:2002, 4.10]

3.1.118.2
serviceability
capability (ISO 6707-1:2014, 9.1.11) of a *facility (3.1.37)*, *building* (ISO 6707-1:2014, 3.1.3)(3.1.10) or other *constructed asset (3.1.15)*, or of an *assembly* (ISO 6707-1:2014, 5.5.5), *component* (3.1.13) or *product* (ISO 6707-1:2014, 6.1.2)(3.1.92) thereof, or of a movable *asset* (3.1.7.1)(3.1.7.2), to support the *function(s)* (3.1.43) for which it is designed, used, or required to be used

Note 1 to entry: Adapted from ISO 6707-1:2014, definitions 9.1.11 (capability) and 9.3.84 (serviceability).

[SOURCE: ISO 15686-10:2010, 3.29]

3.1.119
short-term exposure
ageing exposure (ISO 15686-2:2012, 3.1.3) with a duration considerably shorter than the *service life* (3.1.113.1)(3.1.113.2) anticipated

Note 1 to entry: A term sometimes used and related to this type of exposure programme is 'predictive service life test'. A predictive service life test is a combination of a specifically designed short-term exposure and a *performance evaluation* (3.1.83) procedure.

[SOURCE: ISO 15686-2:2012, 3.1.19]

3.1.120
stakeholder
person or entity with an interest in or concern about a *facility* (3.1.37)

Note 1 to entry: The interest may include a financial interest, and may be continuing or temporary, as that of a visitor.

[SOURCE: ISO 15686-10:2010, 3.30]

3.1.121
suitability
<of a facility> appropriateness to support the *functions* (3.1.43) or activities of *users* (3.1.131) or *stakeholders* (3.1.120)

[SOURCE: ISO 15686-10:2010, 3.31]

3.1.122
sunk cost
costs (ISO 6707-1:2014, 9.3.85) of goods and services already incurred and/or irrevocably committed

Note 1 to entry: These are ignored in an appraisal. The opportunity costs of obtaining or continuing to tie up capital are, however, included in *WLC* (3.1.133) analysis and the opportunity costs of using *assets* (3.1.7.1)(3.1.7.2) can be dealt with as costs in *LCC* (3.1.62) analysis..

[SOURCE: ISO 15686-5:2008, 3.1.13]

3.1.123
symptom
indicator of the loss of *performance* (3.1.78.1)(3.1.78.2) of an item

[SOURCE: ISO 15686-7:2006, 3.13]

3.1.124
terminal critical property
<in an established set of critical properties for a building or part> critical *property* (ISO 6707-1:2014, 9.1.3) that first fails to maintain the corresponding *performance requirement* (ISO 6707-1:2014, 9.1.16) (3.1.85.2) when subjected to exposure in a particular service *environment* (3.1.30)

[SOURCE: ISO 15686-2:2012, 3.1.20]

3.1.125
threshold level
number indicating *level of functionality* (3.1.56) which, if not provided, would significantly or completely impair the ability of *users* (3.1.131) to carry out their intended activities or operations

[SOURCE: ISO 15686-10:2010, 3.32]

3.1.126
time acceleration factor
number or function used to transform the results of *ageing* (3.1.3) of a *component(s)* (3.1.13) derived from *accelerated short-term exposure* (3.1.1) testing to a *predicted service life* (3.1.89.1) or *predicted service life distribution* (3.1.90)

[SOURCE: ISO 15686-2:2012, 3.21]

3.1.127
time value of money
measurement of the difference between future monies and the *present-day value* (3.1.91) of monies

[SOURCE: ISO 15686-5:2008, 3.4.5]

3.1.128
topic
single aspect of a *facility* (3.1.37) for which a *level of performance* (3.1.57) is determined

Note 1 to entry: Levels of performance that may be determined include *levels of functionality* (3.1.56), *levels of serviceability* (3.1.58), *threshold levels* (3.1.125) and *relative importance* (3.1.104).

[SOURCE: ISO 15686-10:2010, 3.33]

3.1.129
uncertainty
lack of certain, deterministic values for the variable inputs used in a *LCC* (3.1.62) analysis of an *asset* (3.1.7.1)(3.1.7.2)

[SOURCE: ISO 15686-5:2008, 3.4.6]

3.1.130.1
usage conditions
in-use conditions (3.1.53.1)(3.1.53.2)(3.1.53.3) due to *users* (3.1.131) of a *building* (ISO 6707-1:2014, 3.1.3) (3.1.10)/*constructed asset* (3.1.15) and human activity adjacent to a building/constructed assets

Note 1 to entry: In ISO 15686-7, the *factor class* (3.1.39) F is designated 'usage conditions' rather than 'in-use condition' as used but not defined in ISO 15686-1:2000. This is called for in order to distinguish the factor class from the term 'in-use condition' as defined in ISO 15686-2:2001 as 'environmental condition under normal use'.

[SOURCE: ISO 15686-7:2006, 3.15]

3.1.130.2
usage condition
factor category (3.1.38) of *in-use conditions* (3.1.53.1)(3.1.53.2)(3.1.53.3) that considers the influence on *performance* (3.1.78.1)(3.1.78.2) due to the use of a *building* (ISO 6707-1:2014, 3.1.3)(3.1.10)/*constructed asset* (3.1.15) or any human activity adjacent to a building/constructed asset

Note 1 to entry: In ISO 15686-8, the factor category relating to factor F is designated 'usage conditions' rather than 'in-use condition' as used elsewhere in order to distinguish the factor category from the concept 'in-use condition'.

[SOURCE: ISO 15686-8:2008, 3.10]

3.1.131
user
organization, person, animal or object which uses or is intended to use, a *building* (ISO 6707-1:2014, 3.1.3)(3.1.10) or other *construction works* (ISO 6707-1:2014, 3.1.1)

Note 1 to entry: This includes any person or entity who uses a *facility* (3.1.37), whether as occupant, visitor, member of the public, or other *stakeholder* (3.1.120) with interest in the facility.

[SOURCE: ISO 6707-1:2014, 8.1, modified — to add a Note to provide further clarification.]

[SOURCE: ISO 15686-10:2010, 3.34]

3.1.132
whole life
period of time over which the *functionality* (3.1.46) [*functional performance* (3.1.44)] of a *facility* (3.1.37) is assessed in *service life planning* (3.1.116)

Note 1 to entry: The whole life commences with the process of definition of need, before a project is explicitly launched, continues through the process of acquisition and use and operation of the facility, and concludes with *disposal* (3.1.26.1)(3.1.26.2), which involves either a status change or end-of-life action(s).

Note 2 to entry: The concepts of *life cycle (*3.1.60) and whole life are interrelated, but differ, with the difference primarily based on the object of consideration and context. Within ISO/TC 59, three similar definitions of life cycle are applied; these definitions are given in ISO 14040:2006, 3.1, ISO 15392:2008, 3.15 and ISO 15686-5:2008, 3.3.4.

[SOURCE: ISO 15686-10:2010, 3.35]

3.1.133
whole-life cost
WLC
all significant and relevant initial and future costs and benefits of an *asset* (3.1.7.1)(3.1.7.2), throughout its *life cycle* (3.1.60), while fulfilling the *performance requirements* (ISO 6707-1:2014, 9.1.16)(3.1.85.2)

[SOURCE: ISO 15686-5:2008, 3.1.14]

3.1.134
whole-life costing
methodology for systematic economic consideration of all *whole-life costs* (3.1.133) and benefits over a *period of analysis* (3.1.87), as defined in the agreed scope

Note 1 to entry: The projected costs or benefits may include *external costs* (3.1.35) (including, for example, finance, business costs, income from *land* (ISO 6707-1:2014, 10.1) sale, *user* (3.1.131) costs).

Note 2 to entry: Whole-life costing can address a period of analysis that covers the entire *life cycle* (3.1.60) or (a) selected stage(s) or (b) periods of interest thereof.

Note 3 to entry: This definition should be contrasted with that for *life-cycle costing* (3.1.63.1).

[SOURCE: ISO 15686-5:2008, 3.1.15]

3.2 Abbreviated terms

AIRR	adjusted internal rate of return
AC	annual cost
AEV	annual equivalent value
BIM	building information modelling
CAFM	computer aided facilities management

COBie	construction operation buildings information exchange
DL	design life
DLC	design life of a component
ESL	estimated service life
ESLC	estimated service life of a component
FMEA	failure mode and effect analysis
GIS	geographic information systems
GUID	globally unique identifier
IFC	industry foundation classes
IRR	internal rate of return
LCA	life cycle assessment
LCC	life-cycle cost
MOM	maintenance, operating and management costs
MR&R	maintenance, repair and restoration
NPC	net present cost
NPV	net present value
NS	net savings
PD	performance degrees
PDV	present-day value
PSLC	predicted service life of a component
PSLDC	predicted service life distribution of a component
RSL	reference service life
RSLC	reference service life of a component
SIR	savings-to-investment ratio
SLP	service life prediction
UV	ultraviolet
WLC	whole life cost
WLCC	whole life-cycle cost

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