![SIST logo]

SLOVENSKI STANDARD
oSIST prEN 15221-4:2019

01-januar-2019

Upravljanje objektov in storitev - 4. del: Taksonomija, klasifikacija in struktura pri upravljanju objektov in storitev

Facility Management - Part 4: Taxonomy, Classification and Structures in Facility Management

Facility Management - Teil 4: Taxonomie, Klassifikation und Strukturen im Facility Management

Facility management - Taxinomie, classification et structures en facility management

Ta slovenski standard je istoveten z: prEN 15221-4

iTeh STANDARD PREVIEW
(standards.iteh.ai)

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

**DRAFT
prEN 15221-4**

November 2018

ICS 03.080.10

Will supersede EN 15221-4:2011

English Version

Facility Management - Part 4: Taxonomy, Classification and Structures in Facility Management

Facility management - Taxinomie, classification et structures en facility management

Facility Management - Teil 4: Taxonomie, Klassifikation und Strukturen im Facility Management

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 348.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

This draft European Standard was established by CEN in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.

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

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

© 2018 CEN   All rights of exploitation in any form and by any means reserved worldwide for CEN national Members.

Ref. No. prEN 15221-4:2018 E

prEN 15221-4:2018 (E)

Contents

Page

iTeh STANDARD PREVIEW
(standards.iteh.ai)

prEN 15221-4:2018 (E)

European foreword

This document (prEN 15221-4:2018) has been prepared by Technical Committee CEN/TC 348 "Facility Management", the secretariat of which is held by NEN.

This document will supersede EN 15221-4:2011.

This European Standard is one of the series ISO 41000 and EN 15221 "*Facility Management*" which consists of the following parts:

1. *ISO 41011:2017* Facility Management - Vocabulary

2. *ISO 41012*:Facility Management – Guidance on strategic sourcing and the development of agreements

3. *ISO 41013* Facility Management – scope, key concepts and benefits

4. *EN 15221* Part 3: Guidance on quality in Facility Management

5. *EN 15221* Part 4: Taxonomy, Classification and Structures in Facility Management

6. *EN 15221* Part 5: Guidance on Facility Management processes

7. *EN 15221* Part 6: Area and Space measurement in Facility Management

8. *EN 15221* Part 7: Performance Benchmarking

NOTE   With the addition of the ISO standards, Part 1 and Part 2 of *EN 15221* are withdrawn.

Introduction

In 2013 the initiative was taken to interest parties at ISO level for the FM suite of standards of Europe, the EN 15221 parts 1 to 7. This resulted in the re-development of the standards for vocabulary, sourcing and agreements.

The result consists of the parts:

• ISO 41011 Facility Management – Vocabulary

• ISO 41012 Facility Management – Guidance on strategic sourcing and the development of agreements.

• ISO/TR 41013 Facility Management – Scope. Key concepts and benefits.

These standards also build on widely accepted management principles, in particular value chain (Porter, M E, (1985), "Competitive Advantage: creating and sustaining superior performance", Free Press, New York) and quality control (PDCA. Deming, W E (1986), "Out of the Crisis", MIT, Cambridge). Reference to ISO 10014:2006, *Quality management – Guidelines for realizing financial and economic benefits.*

The principles of the Deming cycle (PDCA) underpin all of the standards but are applied to a different extent and depth in each. In fact, there are different types of PDCA cycles depending of the term (e.g. long term, short-term).

These standards align to EN ISO 9000 family of standards for Quality Management Systems and apply specific guidance on the concepts and use of a process-based approach to management systems to the field of Facility Management.

The term "facility services" is used as a generic description in the standards. The term "standardized facility products" refers to the "standardized facility services" defined and described in EN 15221-4, *Facility Management — Part 4: Taxonomy, Classification and Structures in Facility Management.*

Countries can decide to substitute the term "product' into "service", when they consider that it is important for a good acceptance and use of the standards in their own country.

The aim of all the standards is to provide guidance to Facility Management (FM) organizations on the development and improvement of their FM processes to support the primary activities. This will support organizational development, innovation and improvement and will form a foundation for the further professional development of FM and its advancement in Europe. Therefore, generic examples are provided in the standard to assist organizations.

These standards lay the foundation of the work that has to be done further more in developing Facility Management, for example, benchmark standards EN 15221-7.

In the European Standard ISO 41011 Facility Management is defined as the integration of processes that support the primary business of an organization. Facility Management (FM) according to this definition envisages a business model that encourages an organization to optimize its support services. The key focus is to improve the effectiveness of the primary activities of an organization by streamlining the service provision and interaction of the parties.

Accessibility to the resources necessary to facilitate knowledge development, innovation and business improvement are important in a global market where leading edge practices are maintaining or improving competitive advantage as key objectives of a successful business or governmental organization. Taxonomy provides a framework within which knowledge is able to be identified and categorized for ease of access by practitioners.

prEN 15221-4:2018 (E)

Based on various definitions, the most evident conclusion is that taxonomy is a classification system for improved information management, which contributes to improving the capability of users to sustain and improve the operations of their business. The key concept relates to how the use of taxonomy will improve the operations of the business. In this regard, the structure of taxonomy should be closely aligned to business processes so that the user's access to information is intuitively driven.

EN 15221-4 provides a taxonomy with a relationship model which integrates the FM-model, the process matrix, the product/service structure and a classification system. These are essential contributions to the removal of barriers to harmonization and cross border trade.

This standard uses the term product in accordance with EN ISO 9000 which defines a product as the result of a process. In the context of FM, a product is a result of a process and the respective activities / facilities.

The standardized (classified) facility products are a well-defined (commodified) and hierarchically organized set of facility services. They have been selected from the countless number of individual (customised) facility services to provide a basis for standardization in the field of process definition, cost allocation, standardized tendering etc. They have been selected from a client perspective and attempt to integrate different European customs and practices.

1 Scope

FM covers and integrates a very broad scope of processes, products / services, activities and facilities. The approach of this standard is to consider the added value provided to the primary activities by adopting a product perspective as recognized by the primary processes or core business in the organization. This standard therefore introduces the concept of standardized (classified) facility products.

The scope of this standard is to provide taxonomy for FM which includes:

— relevant interrelationships of elements and their structures in FM;

— definitions of terms and contents to standardize facility products which provide a basis for cross border trade, data management, cost allocation and benchmarking;

— a high level classification and hierarchical coding structure for the standardized facility products;

— expanding the basic FM model given in ISO 41011 by adding a time scale in the form of the quality cycle called PDCA (Plan, Do, Check, Act);

— a linkage to existing cost and facilities structures;

— alignment with the primary activities requirements.

Additional benefits from this standard are:

— Introducing a client rather than a specifically asset oriented view;

— Harmonization of different existing national structures (e.g. building cost codes) on an upper level relevant for the organization and its primary activities.

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.

ISO 41011, *Facility Management – Vocabulary*

ISO/TR 41013, *Facility Management – Scope, key concepts and benefits*

EN 13306, *Maintenance - Maintenance terminology*

3 Terms and definitions

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

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

• IEC Electropedia: available at http://www.electropedia.org/

• ISO Online browsing platform: available at http://www.iso.org/obp

3.1 General taxonomy of Facility Management related terms and definitions

3.1.1
adaptability

possibility (ability) of changing characteristics like volume or function or space in order to meet new requirements

NOTE 1   Adaptability consists of:

—   Elasticity: The possibility of changing the volume;

—   Generality: The possibility of changing the function;

—   Flexibility: The possibility of changing the distribution of space.

NOTE 2   Usability is defined in ISO 9241.

3.1.2
classification

system for grouping and categorizing items with similar characteristics (attributes)

3.1.3
facility manager

person responsible for the facility management organization who is the single point of contact for the client on strategic level; leads the FM organization, ensures quality and continuous improvement and conducts strategic projects and tasks

NOTE   If he is a member of the board of the organization, the facility manager is also called Chief Facility Management Officer CFMO or Chief Facility Executive CFE.

3.1.4
facility process

support process which is integrated and managed by FM

NOTE 1   The output of a facility process is a facility product.

NOTE 2   Facility processes are subdivided into facility management processes on strategic and tactical level and facility services processes on operational level.

3.1.5
FM product map

structure of the standardized (classified) facility products in FM

NOTE   Based on EN ISO 9000 the term product is used to cover service, software and hardware.

3.1.6
hierarchy

structure of levels in which each level includes its lower levels

NOTE   Taxonomies are frequently arranged in a hierarchical structure. Typically they are related by supertype-subtype, also called parent-child relationships.

3.1.7
real estate

encompasses land along with anything affixed to the land, such as buildings

NOTE   Real estate, immovable property, real property, realty are used synonymously.

3.1.8
standardised facility product
one of a defined set of classified and hierarchically organized facility services. Depending on national language customs, the term standardized facility service may be used synonymously

NOTE 1   The term product is used in accordance with EN ISO 9000 being the output of a (facility) process which can be a single or a package of material (hardware) or immaterial provisions (software), supplies or services which support the primary activity of the organization and its properties.

NOTE 2   The term "Facility product" has been chosen due to its more commodified (classified) and therefore more comparable nature to enable benchmarking while facility services generally are of a more individual and customised nature. The products have been defined from a client perspective while considering different European customs.

NOTE 3   In this standard the term "Facility" (= a tangible asset, see EN 15221-1) is used in the sense of "facilitation", to provide services, assets, tools and consumables to make work easier/to support the primary activities. This includes a whole production site of an organization and goes down to a single sheet of paper which needs to be purchased, stored, supplied, bound, archived and recycled. Facilities like a building or a sheet of paper are always embedded in activities and the provision of services.

3.1.9
structure
relationships between classes, groups and categories and how they are linked together

3.1.10
support processes
workflow of activities not designated as primary activities (non-core activities)

NOTE   Support processes which are integrated and delivered by FM are called facility processes.

3.1.11
taxonomy
practice and science of classification

NOTE   A knowledge map of a topic typically realized as a controlled vocabulary of terms and or phrases. An orderly classification of information according to presumed natural relationships. A classification system for improved information management, which should contribute to improving the capability of users to sustain and improve the operations of their business, into a series of hierarchical groups to make them easier to identify, study, or locate.

3.1.12
tenant
individual or business which has temporary possession of or pays rent for real estate owned by another party (landlord)

3.2 Financial and administrative terms and definitions

NOTE   When registering, recording or collecting facility costs, as well as allocating them to products, it is necessary to indicate the nature of the costs and revenue. A definition of cost types and terms related to costs used in this standard is given below. For more detailed definitions this standard refers to national or international accounting standards.

3.2.1
asset management
activities aiming to optimize the life cycle costs of facilities which have a value for the organization

NOTE   In the context of facility management, this is either an activity within the FM organization and each standardized facility product concerning the facilities needed to provide its support services or a support service to the primary activity and concerning e.g. its production facilities.

3.2.2
cost of capital
interest and provision for capital

3.2.3
cost of enhancement of initial performance (improvement costs)
costs needed to change a facility to meet new requirements

3.2.4
depreciation
estimated or expected decline in value of an asset

NOTE   The term is used in accounting, economics and finance to spread the cost of an asset over the span of several years.

3.2.5
FM cost centres
element within the accounting system which captures FM-costs

iTeh STANDARD PREVIEW
(standards.iteh.ai)

3.2.6
material costs/costs of materials
costs of goods (e.g. consumables, tools, spare parts)

3.2.7
personnel costs/costs of personnel
wage costs (the gross annual salary, including social plans and taxes, holiday pay, gratuities, bonuses and profit sharing) and other personnel costs

3.2.8
primary activity cost centres
element within the accounting system which captures costs

NOTE   A cost centre often represents a division that adds to the cost of the organization.

3.2.9
revenue
earnings

NOTE   Costs and revenue are linked to the time when they are generated. Costs therefore are not necessarily equal to expenditure, and revenue does not, by definition, constitute receipts and vice versa.

3.2.10
tax costs
costs such as taxes, fees and offsetting of non-reclaimable VAT (value added tax)

3.3 Definitions of main standardized facility products

NOTE   Facility products are hierarchically structured. The principle structure is outlined in the body of this standard and the terms are therefore added in this chapter. The structure follows the examples given in ISO 41011 with minor adaptations. A more detailed definition of these standardized facility products as well as the definitions of the products on lower levels are given in Clause 5.

3.3.1
business support

services supporting mainly the management of an organization, for example, legal counsel

3.3.2
cleaning

services related to hygiene and cleanliness that maintain a proper working environment and help to maintain assets in a good condition

3.3.3
Health, Safety, Security and Environment (HSSE)

services protecting from external dangers or internal risks and protect assets and the health and well-being of the people and providing a safe and sustainable environment

3.3.4
hospitality

services providing a hospitable working environment making people feel welcome and comfortable

3.3.5
ICT

services related to information and communication technologies

3.3.6
logistics

services concerned with the transport and storage of goods and information and improving the relevant processes

3.3.7
organisation specific

services related to people and organization which are specific to the type or branch of the organization

3.3.8
outdoors

services related to the outdoor areas including land, maintaining parking facilities, gardening etc.

3.3.9
primary activity specific (Industry sector specific)

services related to space and infrastructure which are specific to the type or branch of the organization

NOTE   A boiler for example can supply heating for buildings or steam for industrial processes. The latter would fall under this product to make investment and energy used in the buildings comparable to other buildings and industry processes comparable to similar industry processes and thus enabling benchmarking.

3.3.10
space (accommodation)

services for the provision of accommodation like design and build, acquisition or renting of space, including the administration and management of space and its disposal

NOTE 1   It includes the utilities and technical infrastructure (technical building equipment) resulting in a comfortable climate and supplying lighting/ shading, electrical power, water and gas.

NOTE 2   The investment costs of the technical infrastructure are generally included in the costs of space. The consequences are that technical infrastructure cannot be a product of its own on this level.

NOTE 3   The term space has several other meanings as well. This definition applies in the context of the standardized facility products.

3.3.11
sustainability
state in which components of the ecosystem and their functions are maintained for the present and future generations

NOTE   See ISO 15392 - Sustainability in building construction.

3.3.12
workplace
services related to the working environment, for example, furniture, equipment and tenants fit out

4   Derivation of Facility Products and Relationship Model

4.1 General

The principle reason FM exists as an entity is to support the primary activities of an organization more effectively, therefore alignment of facility processes that deliver facility services or facility products which are an essential support and/or add value to the client organization with the primary processes is of fundamental importance.

In the field of Facility Management, there have been many different approaches to the definition, structuring and allocation of costs. The varying requirements have historically not been met by one single cost structure without compromise or repetition of items. This standard therefore defines generic structures and methods for the classification of hierarchically organized and standardized facility products which will allow consistent cost allocation and improve the ability to combine, analyse and present information. Based on EN ISO 9000 the term product is used to cover service, software and hardware.

The map of standardized facility product provides a basis for:

a)   uniform specification for the provision of services;

b)   cost allocation and cost comparisons;

c)   measuring quality and performance in a consistent way;

d)   benchmarking across organisations and national borders.

The creation of a set of high level standardized facility products will, if widely adopted, allow organisations to align internal structures and costs and, over time, benchmark with other similar companies with increased certainty.

Adoption of a detailed costing structure demands considerable time and effort. Every organization has to determine the appropriate level of detail included in its cost allocation system, however, all organisations should be capable of implementing the high level structures of standardized facility products contained in this standard.

4.2 The generic structures needed to describe a facility product

In the field of Facility Management, there are differing relationships between information and costs. The information can be shown in different ways following different structures. The differing relationships cannot be accommodated by one single (cost) structure without compromise or constant repetition due to the fact that there is usually more than one dimension (independent structure) involved. This taxonomy standard therefore defines generic structures and cost allocation methodologies to consolidate the information and asset evaluation. The various partly overlapping existing structures in Facility Management (cost structures, activities, facilities, processes, resources, life cycle phases, building areas, utilities, ICT network, etc.) have been reduced to a minimal set of three generic structures needed to describe a Facility Product.

When the proposed structure is adopted, organisations will have the ability to compare costs of standardized facility products as well as costs of individual facility services in accordance with already existing cost structures. This ability will be further enhanced by the use of a standard computer based accounting system. At a certain level, cost information used in an accounting system will not be sufficient and physical or measured data like m2, kWh, etc. is required. This is the point where the application of an enhanced accounting system like e.g. a CAFM (Computer Aided Facility Management) is recommended.

Two of the resulting generic structures, the activities structure and the facilities structure, are connected together in form of a matrix. Adding cost information as the third structure, the resulting three dimensions (each dimension is representing an independent generic structure) can be visualized in Form of a cube (Figure 1). This cube is used as a model to show that with these generic structures either the cost of each facility or the cost of each activity or the cost of each activity performed on a facility or any other combination can be displayed separately. The 'fourth' dimension contains information on who has ordered and will pay for the product (the client or customer) and how the price of the product will be charged or billed.

It is essential to draw a clear distinction between facilities (tangible assets, hardware, materials, energy, etc.) and activities (action, doing, workflow). In a construction phase example, bricks and mortar (facilities) are processed by the activity of bricklaying (specified activity) to construct a wall. The wall becomes part of the facility "building" needed to provide the product "Space". The same wall (facility) will eventually need to be cleaned or repainted (activities). This approach requires generic structures (dimensions) which can be freely combined (e.g. the activity 'cleaning' can be applied to floors, carpets, windows, walls, ducts, machines, etc.) and the facilities structure can also be used for other purposes (e.g. asset management or maintenance and refurbishment planning). The aim is to be able to use consistent data and terminology throughout the whole life cycle of a facility.

With the cost elements attributed as the third independent structural dimension, virtually any existing cost structure can be interlocked and compared. To try to reduce this cube into a one dimensional list means to repeat elements of the other structures several times or to lose some of the information. To overcome this, delimited volumes within these three dimensions have been defined as products.

This taxonomy standard proposes to use existing structures where applicable, especially existing cost and facilities structures, while activities structures in most cases require further standardization in FM.