SLOVENSKI STANDARD
SIST EN 16271:2014

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Upravljanje vrednosti - Funkcijski opis potreb in funkcijska specifikacija zmogljivosti - Zahteve za opisovanje in vrednotenje potreb, ki jim je treba zadostiti v okviru procesa nakupovanja ali nabave izdelka

Value management - Functional expression of the need and functional performance specification - Requirements for expressing and validating the need to be satisfied within the process of purchasing or obtaining a product

Value Management - Funktionale Beschreibung der Bedürfnisse und funktionale Leistungsbeschreibung - Anforderungen an das Beschreiben und Validieren der Bedürfnisse, die während der Erstellung oder des Erwerbs eines Produktes zu befriedigen sind

Management par la valeur - Expression fonctionnelle du besoin et cahier des charges fonctionnel - Exigences pour l'expression et la validation du besoin à satisfaire dans le processus d'acquisition ou d'obtention d'un produit

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ICS:

03.100.10	Nabava. Dobava. Logistika	Purchasing. Procurement. Management of stock
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Value management - Functional expression of the need and functional performance specification - Requirements for expressing and validating the need to be satisfied within the process of purchasing or obtaining a product

Management par la valeur - Expression fonctionnelle du besoin et cahier des charges fonctionnel - Exigences pour l'expression et la validation du besoin à satisfaire dans le processus d'acquisition ou d'obtention d'un produit

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Foreword

This document (EN 16271:2012) has been prepared by Technical Committee CEN/TC 279 "Value management, value analysis, functional analysis", the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2013, and conflicting national standards shall be withdrawn at the latest by June 2013.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: 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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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0   Introduction

0.1 General

This European Standard states the conditions for the successful implementation of the Functional Need Analysis, Functional Need Expression and Functional Performance Specification and determines the compliance requirements for the parties involved. It extends the generic standard on Value Management, EN 12973. It separately presents the requirements applicable to the processes that have to be implemented and those applicable to the deliverables derived from these processes.

0.2 Basis

In highly competitive markets, the durability and the development of organisations depend on their capacity to provide competitive products which are best suited to satisfy the need, whether expressed or implicit, of the users.

The statement of the need in a functional form, i.e. in terms of purpose, without reference to solutions (technical, administrative, procedural, and organisational, etc.) likely to satisfy it, ensures there is every chance that competitive and innovative solutions will emerge at the design stage.

The statement of the need in a functional form is essential. It permits the expression of the:

— reference of this need in validated terms (in terms of obligations, expected services, rather than in terms of means) which can be used to control the evolution of this reference at the later stages of the product's life;

— level of importance of the main requirements which make up the cost of a product.

Using a structured need statement approach in a functional form promotes the:

— offer of competitive and innovative products;

— mobilisation of all the interested parties to obtain a unified expression of the need which can be used at each step - from the development to the evaluation of offers satisfying the same need;

— dialogue between the partners, while respecting the responsibilities of each partner and with a clearer relationship between the customer and the provider.

This European Standard addresses the quality of specification under the responsibility of the enquirer, the handling of the customer/provider relationship and the search for the optimum solution in relation to the expressed need. The standard also addresses the performance levels and the grade of quality required by the enquirer.

0.3 Organisation and presentation of processes and deliverables

Figure 1 below shows schematically the relationship between the three key processes (Functional Need Analysis (FNA) process, the Process for drawing up the Functional Performance Specification (FPS), and the FPS utilisation process:

— The Functional Need Analysis (FNA) process: this enables the defining of the result named Functional Need Expression (FNE).

— The process for the drawing up of the Functional Performance Specification (FPS) from the FNE: this process generates a document (FPS) used within the framework of external enquiries, calls for tenders, the Design To Objective (DTO) approach, or internally by certain organisations.

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— The FPS utilisation process: this enables, from the initial FPS, a stabilised and final version of the selected need (FPS reference version) to be defined so that the future product shall satisfy.
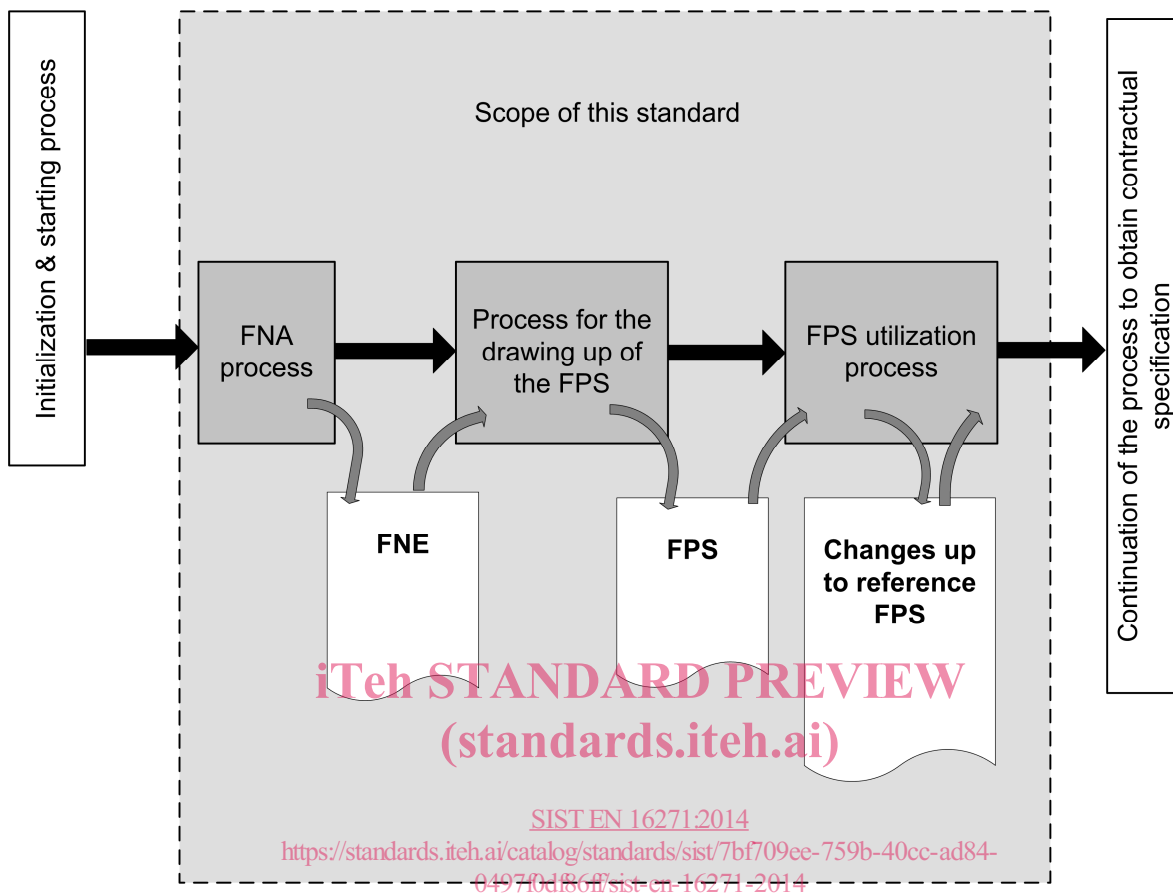
Figure 1 — Process organisation and relations between deliverables

Annex B proposes a detailed presentation of the processes and deliverables highlighting the respective roles of the owner or project manager and of designers/producers.

0.4 Functional need analysis (FNA)

The FNA is a process which applies to a physical object, as well as an organisation, a service, an intellectual service, a process, software, an information system or any combination of the preceding elements. The functions (User Related Functions) that any product provides shall be defined before it is made, thus justifying its acquisition or, more generally, its procurement. The FNA:

— highlights and takes into account the point of view of all the interested parties involved;

— relates to the entire life cycle, from upstream (supply, storage etc.), utilisation, to downstream (maintenance in operational conditions, upgrading and end-of-life operations) phases, and thus introduces the consideration of time;

— defines the expected results and not the means to be implemented. The FNA makes it possible to avoid the premature freezing of technical solutions.

Therefore, the FNA is fully in line with the perspective of a sustainable development since it takes account of all the interests involved and contributes to optimising resources by focusing on what is essential: to determine sound and acceptable objectives prior to any action.

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0.5 Functional Need Expression (FNE)

The FNE materialises the results obtained with the FNA. The FNE:

— organises information according to a rigorous and detailed explanatory logic. It gives an assessment of the elements, enabling decision-making with full knowledge of the facts;

— makes it possible to initiate the design and the making of the product which is the most appropriate to provide the desired service, the most suitable for the expected use, with the best suitable performance;

— is a reference of the customer need for all the product development steps.

Seen from this perspective, the FNE complies with the transparency or visibility principle defined in the sustainable development approaches.

0.6 FPS

The FPS is a structured and detailed presentation of the need based on the FNE. It enables inquirers to begin a dialogue (or even an initial negotiation) with providers or developers responsible for meeting an identified and specified need. The FPS:

— is used to introduce and make competitive dialogue easier between owners or project managers and providers since they raise a legitimate issue and require a tailor-made response;

— leaves to the provider a broad initiative in the search for original and efficient solutions with regard to the quality/price/lead-times/risks ratios;

— allows all parties to appreciate the differences between the solutions and the need, and makes comparisons easier between competing solutions;

— allows verification and evaluation of the effective results by reference to an expressed expectation.

The implementation of an approach with the FPS changes the 'customer-provider' relationship from an obligation to respond to a predetermined technical specification to an obligation to achieve a result.

0.7 Fields of use

The FNA, FNE and FPS concepts are applicable whenever any entity (organisation or an internal department thereof etc.) expresses a request to another entity which has sufficient capacities and competences to propose to it a product as a response.

The FNE establishes the accurate definition of the need to be satisfied by the product:

— either within the framework of relationships between a customer and their providers; or

— between two entities belonging to the same organisation; or

— within the framework of work groups where it is an integral part of various methods (value analysis, dependability, security analysis, etc.); or

— within the framework of larger and 'integrating' managerial policies and approaches, such as sustainable development, system engineering, design to objective, etc.

These concepts are applicable to all economic sectors, including the service sector. The desired end products or projects may be intended for public or professional use, for investment or for consumption, based on current or future needs. The required products/services may consist of mature products (consisting of subsets at different levels of maturity) as well as products that come from research and exploration.

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The FNE may be successfully applied to projects of any size and complexity by adapting this approach.

0.8 Relationships with Value Analysis and Design To Objective (DTO)

The processes and documents produced in compliance with the recommendations of this standard are also integrated into other Value Management approaches. The Value Analysis and Design To Cost/Objective which are core methods of the Value Management (EN 12973) are particularly concerned.

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1 Scope

This European Standard is a tool to be used by any partner wishing to draft and make use of the reference of any need to be satisfied. In light of this purpose, it:

a) states the interests and fields of application of the Functional Need Analysis, Functional Need Expression and Functional Performance Specification concepts;

b) determines the contents requirements of the functional need expression structured in four main bodies:

1) global definition of the need;

2) definition of the strategic elements and the consolidation of needs;

3) highlighting of principles, and concepts chosen beforehand, if any;

4) description of the functions to be provided and of the constraints to be complied with.

c) determines the requirements on the composition and contents of a functional performance specification and those used to assess its quality, i.e. requirements concerning:

1) its contents and structure;

2) the assessment of the characteristics which define its quality.

d) precisely specifies, in the form of requirements:

1) the conditions for a successful Functional Need Analysis (FNA) action producing a deliverable called Functional Need Expression (FNE);

2) the conditions for drawing up a successful functional performance specification (FPS) based on the available functional need expression (FNE);

3) the conditions of use of the FPS by the inquirer and the various partners involved (the provider for example);

e) specifies the various conditions of use of these concepts.

This European Standard is applicable in principle to all product types and dimensions (from the elementary tangible object to the definition of an organisation and its strategy, including the systems or processes and activities implemented by an organisation) and to all sectors of activity (including the service sector). Lastly it is applicable within the framework of relationships between external partners (between a customer and its providers) or internally (between two entities of the same organisation for example).

2 Normative references

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

EN 1325-1:1996, *Value Management, Value Analysis, Functional Analysis vocabulary ⸺ Part 1: Value Analysis and Functional Analysis*

EN 1325-2:2004, *Value Management, Value Analysis, Functional Analysis vocabulary ⸺ Part 2: Value Management*

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3   Terms and definitions

For the purposes of this document, the terms and definitions in EN 1325-1:1996 and EN 1325-2:2004 and the following apply.

3.1
user
person or organisation for which the product is designed and which exploits at least one of its functions at any time during its life cycle

Note 1 to entry: A user can be an external or internal customer.

3.2
need
what is necessary for or desired by the user

Note 1 to entry: A need can be declared or undeclared; it can be an existing or a potential one.

3.3
product
result of activities or processes

Note 1 to entry: A product can include service, hardware, processed materials, software or a combination thereof.

Note 2 to entry: A product can be tangible (e.g. assemblies or processed materials) or intangible (e.g. knowledge or concepts) or a combination thereof.

Note 3 to entry: A product can be either intended (e.g. offering to customers) or unintended (e.g. pollutant or unwanted effects).

[SOURCE: EN ISO 9000:2005, modified]

3.4
constraint
characteristic, result or design feature which is made compulsory or has been prohibited for any reason, with no alternative possibility being left

Note 1 to entry: Constraints are generally restrictions on the choice of solutions in a VA project.

Note 2 to entry: The constraints can result from laws, from standards, from the demand of the market. These elements contribute to the characterisation of the functions. It is wise to record the relationship between them and the functions to which they apply (traceability).

Note 3 to entry: Given the importance which the constraints can have on the definition of the product, it is good practice to justify any specified constraint.

Note 4 to entry: To facilitate the reading of the results of the Function Analysis, constraints can be included in a particular chapter.

3.5
enquirer
person or organisation in search of a product and who is responsible for issuing the Functional Performance Specification, with a view to its purchase or requisition and use by itself or by others

3.6
designer - producer (of a product/system)
entity responsible for the design of a product/system which, in addition to the technical requirements, takes the risks, the costs, and the realisation and development times into account