

Teknisk specifikation

SIS-CEN/TS 16555-3:2015

Publicerad/Published: 2015-01-29

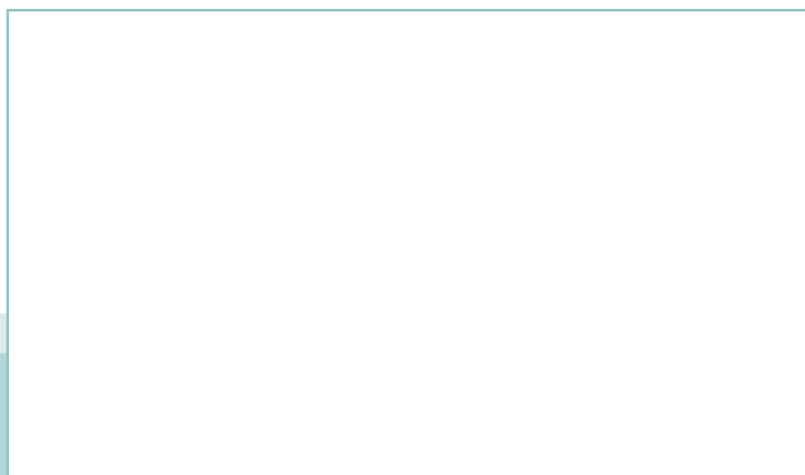
Utgåva/Edition: 1

Språk/Language: engelska/English

ICS: 03.100.40; 03.100.50

Innovationsledning – Del 3: Innovationstänkande

Innovation management – Part 3: Innovation thinking



Standarder får världen att fungera

SIS (Swedish Standards Institute) är en fristående ideell förening med medlemmar från både privat och offentlig sektor. Vi är en del av det europeiska och globala nätverk som utarbetar internationella standarder. Standarder är dokumenterad kunskap utvecklad av framstående aktörer inom industri, näringsliv och samhälle och befrämjar handel över gränser, bidrar till att processer och produkter blir säkrare samt effektiviserar din verksamhet.

Delta och påverka

Som medlem i SIS har du möjlighet att påverka framtida standarder inom ditt område på nationell, europeisk och global nivå. Du får samtidigt tillgång till tidig information om utvecklingen inom din bransch.

Ta del av det färdiga arbetet

Vi erbjuder våra kunder allt som rör standarder och deras tillämpning. Hos oss kan du köpa alla publikationer du behöver – allt från enskilda standarder, tekniska rapporter och standardpaket till handböcker och onlinetjänster. Genom vår webbtjänst e-nav får du tillgång till ett lättnavigerat bibliotek där alla standarder som är aktuella för ditt företag finns tillgängliga. Standarder och handböcker är källor till kunskap. Vi säljer dem.

Utveckla din kompetens och lyckas bättre i ditt arbete

Hos SIS kan du gå öppna eller företagsinterna utbildningar kring innehåll och tillämpning av standarder. Genom vår närhet till den internationella utvecklingen och ISO får du rätt kunskap i rätt tid, direkt från källan. Med vår kunskap om standarders möjligheter hjälper vi våra kunder att skapa verklig nytta och lönsamhet i sina verksamheter.

Vill du veta mer om SIS eller hur standarder kan effektivisera din verksamhet är du välkommen in på www.sis.se eller ta kontakt med oss på tel 08-555 523 00.



Standards make the world go round

SIS (Swedish Standards Institute) is an independent non-profit organisation with members from both the private and public sectors. We are part of the European and global network that draws up international standards. Standards consist of documented knowledge developed by prominent actors within the industry, business world and society. They promote cross-border trade, they help to make processes and products safer and they streamline your organisation.

Take part and have influence

As a member of SIS you will have the possibility to participate in standardization activities on national, European and global level. The membership in SIS will give you the opportunity to influence future standards and gain access to early stage information about developments within your field.

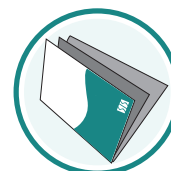
Get to know the finished work

We offer our customers everything in connection with standards and their application. You can purchase all the publications you need from us - everything from individual standards, technical reports and standard packages through to manuals and online services. Our web service e-nav gives you access to an easy-to-navigate library where all standards that are relevant to your company are available. Standards and manuals are sources of knowledge. We sell them.

Increase understanding and improve perception

With SIS you can undergo either shared or in-house training in the content and application of standards. Thanks to our proximity to international development and ISO you receive the right knowledge at the right time, direct from the source. With our knowledge about the potential of standards, we assist our customers in creating tangible benefit and profitability in their organisations.

If you want to know more about SIS, or how standards can streamline your organisation, please visit www.sis.se or contact us on phone +46 (0)8-555 523 00



Denna tekniska specifikation är inte en svensk standard. Detta dokument innehåller den engelska språkversionen av CEN/TS 16555-3:2014.

This Technical Specification is not a Swedish Standard. This document contains the English version of CEN/TS 16555-3:2014.

© Copyright/Upphovsrätten till denna produkt tillhör SIS, Swedish Standards Institute, Stockholm, Sverige. Användningen av denna produkt regleras av slutanvändarlicensen som återfinns i denna produkt, se standardens sista sidor.

© Copyright SIS, Swedish Standards Institute, Stockholm, Sweden. All rights reserved. The use of this product is governed by the end-user licence for this product. You will find the licence in the end of this document.

Uppllysningar om sakinnehållet i detta dokument lämnas av SIS, Swedish Standards Institute, telefon 08-555 520 00. Standarder kan beställas hos SIS Förlag AB som även lämnar allmänna uppllysningar om nationell och internationell standard.

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

Dokumentet är framtaget av kommittén för Innovation Management, SIS/TK 532.

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

TECHNICAL SPECIFICATION
SPÉCIFICATION TECHNIQUE
TECHNISCHE SPEZIFIKATION

CEN/TS 16555-3

December 2014

ICS 03.100.40; 03.100.50

English Version

Innovation management - Part 3: Innovation thinking

Management de l'innovation - Partie 3 : Réflexion axée sur
l'innovation

Innovationsmanagement - Teil 3: Innovatives Denken

This Technical Specification (CEN/TS) was approved by CEN on 27 October 2014 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents	Page
Foreword.....	3
Introduction	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 Innovation thinking.....	5
4.1 General.....	5
4.2 Key drivers	6
4.3 Supportive behaviours and competencies	6
4.3.1 General.....	6
4.3.2 Behaviours	6
4.3.3 Competencies	7
5 Innovation thinking – steps involved.....	7
5.1 General.....	7
5.2 Step 1 – Information gathering.....	8
5.3 Step 2 – Generating solutions	8
5.4 Step 3 – Rapid learning	9
5.5 Step 4 – Validation	9
5.6 Step 5 – Synthesis of outputs	9
5.7 Step 6 – Outcomes.....	9
Annex A (informative) Case Studies.....	11
A.1 Case study 1: Company A	11
A.1.1 Introduction	11
A.1.2 Process	11
A.1.3 Step 1 – Information gathering.....	12
A.1.4 Step 2 – Generating solutions	12
A.1.5 Step 3 – Rapid learning	12
A.1.6 Step 4 – Validation	12
A.1.7 Step 5 – Synthesis of outputs	12
A.1.8 Step 6 – Outcomes.....	12
A.2 Case study 2 – Company B.....	13
A.2.1 Introduction	13
A.2.2 Process	14
A.2.3 Step 1 – Information gathering.....	14
A.2.4 Step 2 – Generating solutions	14
A.2.5 Step 3 – Rapid learning	14
A.2.6 Step 4 – Validation	14
A.2.7 Step 5 – Synthesis of outputs	15
A.2.8 Step 6 – Outcomes.....	15
Bibliography	16

Foreword

This document (CEN/TS 16555-3:2014) has been prepared by Technical Committee CEN/TC 389 “Innovation Management”, the secretariat of which is held by AENOR.

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.

This document is not intended for the purpose of certification.

The CEN/TS 16555 series consists of the following parts with the general title *Innovation management*:

- *Part 1: Innovation Management System;*
- *Part 2: Strategic intelligence management;*
- *Part 3: Innovation thinking;*
- *Part 4: Intellectual property management;*
- *Part 5: Collaboration management;*
- *Part 6: Creativity management;*
- *Part 7: Innovation management assessment.*

Part 7 is in preparation.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this Technical Specification: 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.

Introduction

Innovation thinking is a structured approach whereby information, insights and experiences are sought out and employed for the purpose of maximizing opportunities and solving problems which deliver desirable outcomes to the marketplace. This approach can complement other methods used in innovation.

It is a context sensitive approach that develops an evolving knowledge base, which is then used to elicit and sustain change that should have effective and enduring economic, social and/or ecological value according to organizational purpose.

Those who adopt innovation thinking as part of their working dynamic should develop adaptive advantages that will help them become more agile in the marketplace and create more value for their external and internal stakeholders. Case studies are included in Annex A.

1 Scope

This Technical Specification sets out guidance for an approach to innovation thinking. Innovation thinking can be used at all levels within the organization.

This part provides guidance on how to integrate the core values of innovation thinking into any organization. It provides an approach to balancing the risks and the business viability appropriate to the selected opportunity or problem. It provides top management with an approach for the evaluation of possible outcomes and the determination of the “best fit” for the organization's current strategy.

It is suitable for all types and sizes of organizations including SMEs and is intended for broad application. However, those who are responsible for implementing and managing innovation within such organizations may find this document particularly useful.

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.

CEN/TS 16555-1, *Innovation Management — Part 1: Innovation Management System*

3 Terms and definitions

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

3.1

innovation thinking

approach to finding opportunities and solving problems which delivers a superior or more desirable outcome with respect to the current offerings

4 Innovation thinking

4.1 General

Innovation thinking is an iterative and interactive approach requiring engagement with a variety of different internal and external types of players. It uses rapid and open learning processes to quickly create a variety of options as well as to identify and eliminate what is dysfunctional early on. It uses both the brain's creative and logical capabilities to explore alternative solutions and combinations with the goal to create a better outcome.

Innovation thinking is derived from the design discipline, design thinking which was traditionally focused on product design. This is a methodology that is built around gaining an in-depth understanding of human needs and the outcomes they require. It involves a creative process of generating possible solutions and iterative testing of these proposed solutions. These actions are linked to available technology and the practical constraints of business. The broader approach of innovation thinking brings the product focused design thinking approach to a wider application to include all forms of innovation: product (services and goods, tangible and intangible), process (production methods, procedures and operation layouts), organizational (governance schemes and work relations), and commercial (marketing, distribution systems and business models). In this application it is holistic and limitless.

The innovation process begins when it becomes clear that a more desirable outcome is possible, but the nature of that outcome is uncertain, the route to a solution is unclear, and the risk of failure to reach a satisfactory objective is part of the process. Thus, when a management task involves risk and uncertainty, the innovation thinking approach has much to offer.

SIS-CEN/TS 16555-3:2015 (E)

This approach requires a deep understanding of the specific problem or opportunity, which may be obtained by breaking these down into their core elements. It is also necessary to gain a thorough understanding of all potential user types. Further stages involve integrating and applying user needs around the appropriate technologies and commercial constraints, thus developing outcomes that create value for the targeted users. The innovation thinking approach can be used to support an Innovation Management System, see CEN/TS 16555-1:2013, 11.3.

All innovation carries risks, but tried and tested design methods control that risk by taking informed decisions at a relatively early stage before major commitments to investment are made. This design derived approach is therefore an extremely cost effective process for meeting the needs of the customer (however defined), within the resource constraints of the organization.

See Annex A for case study examples.

4.2 Key drivers

The key drivers of innovation thinking are context, people, enablers and constraints. It is the interaction between these four key drivers and their relative strengths that creates the innovation thinking approach appropriate to the organization.

The key drivers are:

- Context: what is the opportunity or problem setting that the organization is seeking to find and create a new and better outcome? See also CEN/TS 16555-1:2013, Clause 4 for more information on context of the organization.
- People: markets, work force, suppliers: who has the problem and who will benefit or be affected by the solution (i.e. those who directly value the innovation, e.g. users / clients / customers / markets / sectors, work force, suppliers and partners)? See also CEN/TS 16555-1:2013, Clause 4.
- Enablers: who/what will make this opportunity come to fruition. (i.e. “positive” conditions for change, e.g. what behaviours, characteristics, values, approaches, skills are required to make the impossible possible)?
- Constraints: who/what are the barriers that will hinder this opportunity and need to be explored and overcome (i.e. “negative” conditions for change or the realities of the business, e.g. commercial viability, markets, technologies and desirability)?

4.3 Supportive behaviours and competencies**4.3.1 General**

To be successful, an innovation thinking environment should develop certain behaviours and competencies which support and shape the approach to discovering, designing, and developing the essential and desired outcomes for the given opportunity. They enable a “user focused” approach, to ensure that the organization gains a deep understanding of the key drivers in the innovation thinking landscape.

4.3.2 Behaviours

The following behaviours provide an environment in which innovation thinking can thrive and which can support the development of suitable outcomes:

- Supportive understanding, demonstrated through leadership, authorization and empowerment of people, providing them with the space, time, support and skill sets which are needed to creatively explore new ways of doing things. A facilitating framework is also necessary, that acknowledges and rewards both success and failure respectively.

- Encouragement of an open mind-set, in order to explore the benefits of collaborations with multiple other experts and different types of organizations.
- Encouragement of an environment where risks and uncertainties are the norm and failures are accepted as feedback for rapid learning.
- Observation and listening skills, in order to gain an in-depth understanding of the outcomes which are desired. Appropriate question sets need to be developed, together with an understanding of how to pose these questions. It is also necessary to observe how people use and do things in the context of the task and outcomes which are to be achieved.
- Fast visualizations, quick mock-ups, prototyping of ideas and potential solutions, at the most basic level, in order to provide the team with the freedom, space and time, to use their imagination, supported appropriately.
- Experimentation, numerous iterations and variations which are needed to develop the team's thinking and to evolve solutions that best match the problem or opportunity identified.
- Pre-launch testing in order to determine market timing and the robustness of the proposed solution.

4.3.3 Competencies

The following are competencies that should to be developed and nurtured at all levels within any organization which seeks to promote a structured approach to innovation thinking:

- understanding and empathizing with all types of users and their needs;
- identifying and synthesizing their problems and opportunities;
- multidisciplinary creative thinking, both with internal and external partners.

NOTE CEN/TS 16555–5 provides further guidance on collaboration.

5 Innovation thinking – steps involved

5.1 General

There are a number of steps to implementing innovation thinking, as shown in Figure 1.

While each step should be regarded as having an input from the previous step, reference is often required to other preceding steps, as this is an iterative process, designed to grow the knowledge base and hence develop an appropriate and sustainable business outcome.