



Exploiting Research Through Standardization

A best practice guide

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This Best Practice Guide has been produced as part of 'Maxiquest-Norm'; a European RTD Framework 5 Accompanying Measure Project aimed at improving mutual awareness and initiating sustainable measures that will increase integration between the normative research and standardisation communities. For further information please visit <http://www.maxiquest.net>.

Table of Contents

1	Introduction	1
2	The Benefits of Standards and Standardization	2
	2.1 What are standards?	2
	2.2 Who benefits from standards?	3
	2.3 Why exploit your research through standards?	4
	2.3.1 Competitive advantage	4
	2.3.2 International recognition	4
	2.3.3 Meeting the requirements of European Directives	4
	2.3.4 Enhanced quality and reputation	4
	2.3.5 Networking and access to experts	5
3	Types of Standards and Standardization Bodies	6
	3.1 National and sub-national standards	6
	3.2 Regional standards	7
	3.3 International standards	7
4	CEN	8
	4.1 CEN overview	8
	4.2 Agreements with National and International Standards Organisations	8
	4.3 CEN structure	9
	4.4 CEN STAR	10
	4.5 Mandated Standards and Directives	10
	4.5.1 Harmonized Standards	10
5	Normative research	11
	5.1 Funding Normative Research in Europe	11
	5.2 International Normative Research	11

6	Writing Standards	13
6.1	Conventional Standards	13
6.1.1	Defining the need	13
6.1.2	Technical Committees	13
6.1.3	Exploitation of Intellectual Contribution	14
6.1.4	Drafting a standard	14
6.1.5	Validation	15
6.1.6	Uncertainty	15
6.2	Developing Fast-Track 'Standards'	15
6.2.1	CEN Technical Specification (CEN TS)	15
6.2.2	CEN Workshop Agreement (CWA)	16
7	Frequently Asked Questions	17
8	Useful Contacts & Sources of Information	21
9	Abbreviations	22
10	References	23
11	Bibliography	23
APPENDIX A	Assignment of exploitation rights	24

1. Introduction

Standardization is an often-neglected route for exploiting research results. This Best Practice Guide aims to assist researchers with little or no experience of standardization to plan, implement and exploit their research through standards, achieving maximum benefit from their work.

Research that is carried out with the intention of developing new or improving existing standards is called normative research and is often initiated by the standards making organisations. However, 'general research', perhaps initiated for commercial or academic reasons, may contain elements of normative research. In this case, inputting the results of their work into the standardization process could be an additional exploitation route.

This Best Practice Guide will provide you with the basic information you will need should you choose to exploit certain research results through the development of standards. In order to make this choice, you need to be clear what standards are, why we need them and what the benefits are of exploiting your research in this way.

Furthermore, you will need to understand the different types of standards that exist and the organisations responsible for their development and publication. This guide will give you an overview of the principal organisations you should be aware of and provide specific detail about CEN (European Committee for Standardization) and European Standards.

The next step is to look at the process for writing standards; how you can get involved and what procedures you will need to follow. Finally, at the end of this Guide, you will find references and links to a number of other sources of information and advice available to you, and the answers to some frequently asked questions.

Getting the
most out of
your research

2. The Benefits of Standards and Standardization

2.1 What are standards?

Standardization:

“Establishing and applying an agreed set of solutions, intended for repeated application, directed at benefits for stakeholders and balancing their diverse interests” – BSI

A Standard:

“A document established by consensus, and approved by a recognized body, that provides, for common and repeated use, guidelines or characteristics for activities or their results aimed at the achievement of the optimum degree of order in a given context” – ISO/IEC Guide 2 1996

European Standard:

Standard adopted by CEN, CENELEC or ETSI and carrying with it an obligation of implementation as an identical national standard and withdrawal of conflicting national standards

The definitions above are very general and can be applied to all conceivable situations from everyday standards that define, for example, the design of road signs or bar coding, to detailed technical specifications for products or procedures used to measure specific properties.

Everyday standards can normally be decided by consensus between the interested parties or stakeholders, without the need for additional input. For the more technical standards, if sufficient knowledge is available, then again consensus amongst a committee of experts is the basis of the standard. However, in some cases sufficient information is not available and additional normative research is needed to define the standard.

There are four major types of standards:

- ♦ **fundamental standards** which concern terminology, conventions, signs and symbols, etc;
- ♦ **test methods** and analysis standards which measure characteristics such as temperature or chemical composition;
- ♦ **specification standards** which define the characteristics of a product (product standard) or a service (service activities standard) and their performance thresholds such as fitness for use, interface and interchangeability, health and safety, environmental protection, etc.;
- ♦ **organization standards** which describe the functions and relationships of a company, as well as elements such as quality management and assurance, maintenance, value analysis, logistics, project or systems management, production management, etc.

2.2 Who benefits from standards?

There are three principal groups that can be defined as needing standards: industry, the general public/consumer and government. These groups are often referred to as the stakeholders in the standardization process along with research, testing and certification bodies and training and educational establishments.

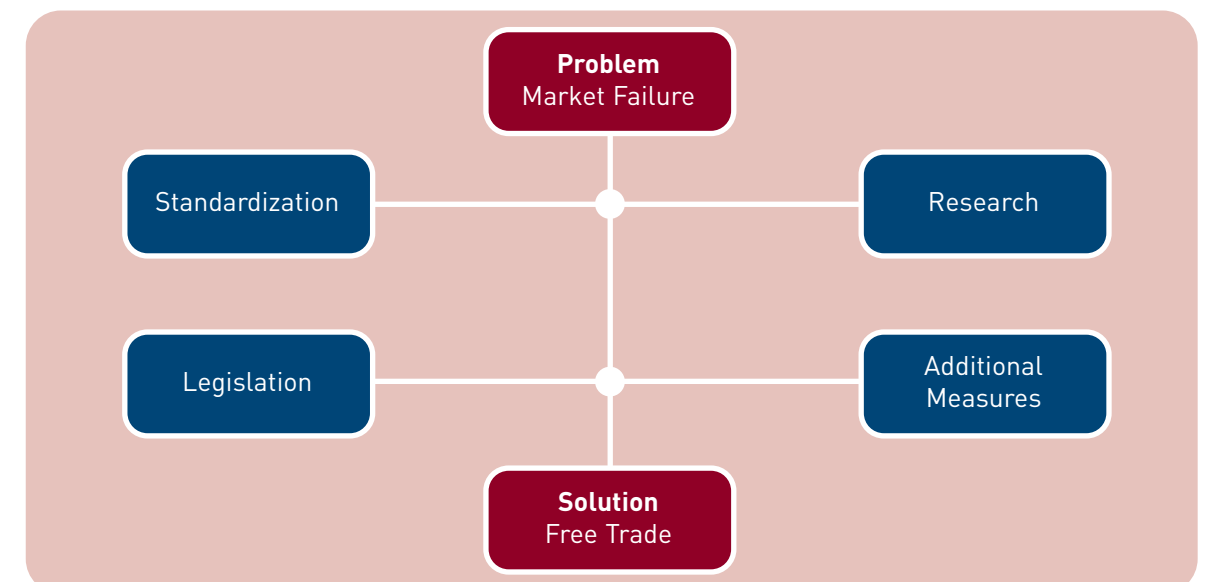
The aims of standardization have been listed [1] as follows:

- ♦ Underpinning specialization and outsourcing, thus reducing costs;
- ♦ Ensuring fitness for purpose;
- ♦ Establishment/codification of best practice;
- ♦ Reducing variety and eliminating waste;
- ♦ Establishing compatibility and interchangeability;
- ♦ Developing self-regulation of a market;
- ♦ Eliminating technical barriers to trade;
- ♦ Guarding the safety and health of citizens;
- ♦ Protecting the environment;

The free movement of goods is a cornerstone of the single market. Barriers to trade are removed through mutual recognition and harmonisation by the use of standards

From the researcher’s perspective, there are complementary and additional reasons for standardization. For example the ability to carry out tests according to internationally agreed standards, when establishing the properties of new products or materials, adds both validity to the data and simplifies the process. Furthermore in new product development, the ability to test against a standard gives confidence that fitness for purpose can be satisfied.

However, it should be stressed that in many cases standardization is not the only way forward. Take the example of generating a free market; standardization plays a part, but legislation and regulation also have a powerful effect in opening up markets. Market failure can also be redressed through the research and development of improved or more diverse products that result in greater competition. The diagram below illustrates how standards can fit into problem solving:



2.3 Why exploit your research through standards?

2.3.1 Competitive advantage

Developing a new standard for a product or service is a good way to apply pressure to competitors and gain a competitive advantage. It enables you to 'raise the stakes' and alert consumers to the latest feature of your product or service, whether it be durability, safety, environmentally friendly, etc..

Consider the example of a manufacturer of protective helmets developing a safer product. The currently agreed standard test method does not reveal the advantages of their new design, therefore it is in the manufacturer's interest to develop an improved standard that will highlight the advantages of their helmet against their competitors.

2.3.2 International recognition

Involvement of standards development organisations (SDOs) in your research ensures international recognition, since clearly the international community regards the work sufficiently highly to invest in writing standards based upon your research. Recognition in this way raises the status of your organisation to "world class".

Why exploit through standards?

- ◆ Competitive advantage
- ◆ International recognition
- ◆ Meet requirements of European Directives
- ◆ Enhanced Quality
- ◆ Enhanced reputation
- ◆ Networking
- ◆ Access to other experts

2.3.3 Meeting the requirements of European Directives

Should a European Directive be brought in that your product or service falls under, you must ensure it meets the requirements of the directive. By far the best way of doing this (but not the only) is by developing or using standards.

2.3.4 Enhanced quality and reputation

Developing internationally agreed standards can increase the quality of your product or service and also promote the importance an organisation places on quality in general. Customers today are demanding better and better quality and increasingly, products or services not backed by appropriate standards will become harder and harder to sell.

2.3.5 Networking and access to experts

Access to international experts through, for example, a standards committee can be extremely beneficial in the development of your standard. You will gain a better appreciation of the state-of-the-art in other countries and amongst your competitors, as well as benefiting from their collective expertise. The work involved in improving a standard can be expensive and while your organisation may have made substantial progress on the development of a new test procedure, collaboration with outside experts can provide a very large gearing that makes considerable financial sense at a time when all budgets are under scrutiny.

Furthermore, networking with other members of a standards committee can often stimulate trans-national collaborative research, which is often a pre-requisite of EC funding. It is also an opportunity to develop your organisation's reputation in its particular market or field.



3. Types of Standards and Standardization Bodies

The organisation of bodies that provide standards is complex. **Broadly speaking organisations can be classified as either formal or informal and can exist on a number of levels:**

- ◆ sub-nationally
- ◆ nationally
- ◆ regionally
- ◆ internationally

Informal organisations, such as private companies or sectoral associations, often have no legal status in terms of standards formulation, a function that may only form part of their overall activities.

Formal organisations are legally recognized by governments and the standards produced are consensus driven.

3.1 National and sub-national standards

All trading nations require standards for the manufacture of goods and sale of services. The National Standards Bodies (NSB) of the individual countries generally represent these interests and their standards are considered to be formal, recognized by their government and excluded from monopoly restrictions. However, trade organizations or professional institutes can develop their own standards for the benefit of members, and some governmental organizations and large industries find it necessary to develop their own standards, all of which are considered to be informal.

Some NSBs

- ◆ AENOR – Spain
- ◆ AFNOR – France
- ◆ ANSI – USA
- ◆ BSI – UK
- ◆ DIN – Germany

The extent to which these “organizational” based standards gain international acceptance depends upon their sphere of influence. For example, in the fields of materials and engineering, the American Society for Testing and Materials (ASTM International) and the American Society of Mechanical Engineers (ASME) are known and used world wide, and have established many agreements with NSBs and International Standards bodies.

It should also be recognized that standards developed by some of the longer standing NSBs such as the British Standards Institution (BSI) and Deutsches Institut für Normung (DIN) have been adopted in other countries, particularly developing countries, due to their widespread use and the strong trading position of their respective nations.

3.2 Regional standards

Generally, regional standards organisations act to promote voluntary technical harmonisation in a specific region, in conjunction with regional partners and worldwide bodies. The need to establish regional bodies often derives from the formation of free trade areas, such as Europe. Their role is to co-ordinate with national and international standards bodies and/or to draft standards for the specific needs of their region.

COPANT (Pan-American Standards Commission) and PASC (Pacific Area Standards Congress) are the main regional bodies that represent the Americas and Asia, respectively. Other regional bodies are established in Africa, the Middle East, the Caribbean and the Eastern European States.

In Europe, CEN (European Committee for Standardization) works in partnership with CENELEC (European Committee for Electrotechnical Standardization) and ETSI (European Telecommunications Standards Institute). Formal agreements exist with the National Standards Bodies of the European Union (EU) and affiliate states, as well as with the International Standards Bodies. The role of CEN/ CENELEC is more advanced than any other regional body and this is fully developed in the next section.

“In a global marketplace, the objective of the standards development process must be a single, internationally recognized, technically valid standard that allows products to be distributed for commerce worldwide without change or modification” - ANSI

3.3 International standards

ISO (International Organization for Standardization), IEC (International Electrotechnical Commission) and ITU (International Telecommunications Union) are the main international standards organisations and they are all based in Geneva, Switzerland. ISO and IEC are non-governmental organisations while the ITU is part of the United Nations and its member governments. The three organisations collaborate closely in the fields of IT and telecommunications standards.

4. CEN

In the vast majority of cases, European Standards are developed through CEN (except for electrotechnical and telecommunications standards).

They are obligatorily adopted by its National Members, thereby bringing about harmonized technical standards in Europe. Thus, in the context of standards development in Europe, it is clearly important to understand CEN's vision, mission, strategy, operation, structure and outputs as well as its formal agreements with other standards organisations. Further information about CEN and European standardization can be found at the CEN website (<http://www.cenorm.be/>).



European Committee
for Standardization

4.1 CEN Overview

CEN's vision is to be the focal point in European standardization, contributing to Europe's competitiveness globally and to the welfare of its citizens. Its mission is to foster the European economy in global trading, the welfare of European citizens and the environment. **Some key points in CEN's strategy include:**

- ♦ acknowledging different sector needs;
- ♦ carrying out an efficient validation of quality reference documents;
- ♦ achieving a coherent European position in international standardization;
- ♦ contributing to the enlargement of the EU by assisting NSBs of applicant nations;
- ♦ achieving a coherent approach to conformity assessment and to certification marks.

4.2 Agreements with National and International Standards Organisations

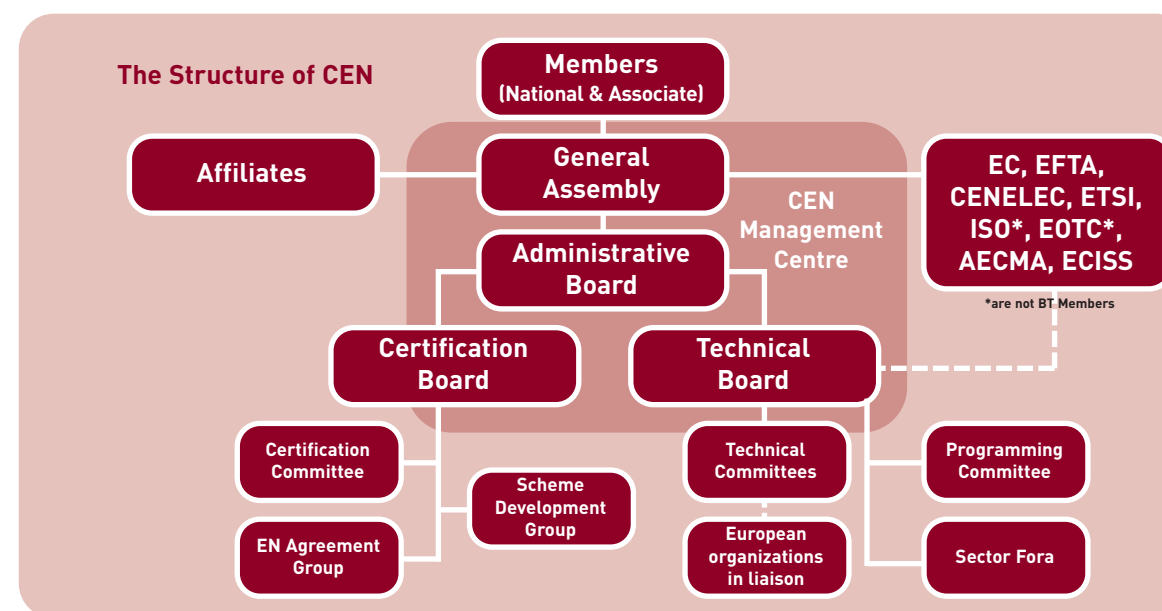
Founded in 1961 by the European NSBs, CEN has been a legal entity since 1976. A significant amount of financial and personnel support is drawn from its national members, **who are obliged to implement any new European Standard and eliminate any previous conflicting national standard.** Furthermore, work on any national standard that potentially competes with the European standard should cease; this is known as "standstill".

There is also an agreement on technical co-operation between ISO and CEN known as the Vienna Agreement. Essentially, **the agreement recognizes the primacy of international standards.** Documents developed within one body are notified for the simultaneous approval by the other. The benefits from this agreement include increased transparency, avoidance of duplication of work and structures, and increased speed of writing, availability and maintenance of standards through a need to establish consensus only once.

Likewise, ISO, together with IEC and ITU, has strong links with the World Trade Organisation (WTO). A WTO Agreement on Technical Barriers to Trade (TBT) - sometimes referred to as the Standards Code - aims to reduce impediments to trade resulting from differences between national regulations and standards. Thus it can be seen that standards are recognized at the highest levels as the cornerstone of free trade.

4.3 CEN structure

The diagram below illustrates CEN's organisational structure and the way in which the many committees and working groups operate; the function of each of these can be summarized as follows:



- ♦ CEN is governed by the **General Assembly** of its national members, which is responsible for the budget, membership and appointment of officers.
- ♦ The **Administrative Board** is the authorized agent of the Assembly to direct CEN's operations. It prepares the annual budget and membership applications. Recent changes mean that the Administrative Board is now supported by two additional consultative committees to those shown above; one for External Policy and one for Financial Affairs.
- ♦ The **CEN Management Centre (CMC)** acts as the focal point and prepares the draft standards for comment and voting. Definitive texts of standards and other publications developed by CEN are made available in English, French and German by the CMC to the national members. These can be purchased from the NSBs, often translated into additional languages.
- ♦ The **Technical Board (BT)** controls the standards programme, technical committees and other bodies such as Task Forces and Working Groups.
- ♦ **The Certification Board** supervises certification activities of CEN including administration of the CEN/CENELEC European Mark of conformity to European Standards. Scheme Development Groups administer application of the Keymark to individual products.
- ♦ **Technical Committees (TC)** are the main focus for the standards making process and are supported by expert working groups (**TC WG**). These are made up of representatives from European NSBs, and in many cases the NSB will appoint a shadow national technical committee. TCs identify needs for research in support of current standardization activities in their specific field, i.e. where research is needed to complete or substantially improve standards in preparation. **The TCs and its WGs are the main points of interaction for normative researchers.**

4.4 CEN STAR

An example of a BT WG is **CEN STAR** (Standardization and Research); created in order to improve the links between standardization and research. STAR performs the following tasks:

- ◆ Establishes lists of the needs for normative research in support of CEN standardization;
- ◆ Organizes Trends Analysis Workshops in selected fields with high relevance of R&D in order to identify important needs for future standardization and to promote appropriate standardization activities;
- ◆ Interfaces with the European Commission as well as with other bodies funding research in Europe to ensure that research is used for the benefit of the standardization process and that research needed to improve the quality of standards is supported from public and private funds.

4.5 Mandated Standards and Directives

Mandated standards, as the name implies, are required and arise as a result of a political request from the representative of the Member States (EU) through the European Commission and European Free Trade Association (EFTA). They are agreed by the Member States and addressed to CEN in support of legislative work such as a new directive (both "Old Approach" and "New Approach" Directives), or in support of new industrial policy.

Directives are issued by the European Union and are legally binding and directly applicable in each Member State. They cite the objectives to be achieved but leave each state to develop its own legislation. Prior to 1985 Directives were often technically detailed and product based. The consequence of this "Old Approach" was that it quickly became overloaded and outdated as new products and technologies were developed. The so-called "New Approach" was conceived in the early eighties. The New Approach **defines the essential requirements** that products must meet when they are put on the market but, in contrast to the Old Approach, **technical specifications of how to do so, are not included.**

A full description of the New Approach may be found in [2].

4.5.1 Harmonized standards

New Approach Directives foresee that the European Standards organizations (e.g. CEN), following a mandate given by the Commission, will draft new standards or identify existing standards, which will offer technical solutions to meet the essential requirements. Standards that support Directives are known as Harmonized standards.

Once reference to these Harmonized standards have been published by the Commission in the Official Journal of the European Union (OJ) and once they have been transposed into identical national standards by the NSBs in the Member States, then compliance with that standard will give a presumption of conformity. This means that in conforming to the new standard you are also conforming to the requirements of the Directive on which it is based. Products conforming with a European Directive carry CE marking.

Products conforming with a European Directive carry CE marking

5. Normative Research

If you are carrying out research that can be used to develop a new standard or improve an existing one, then you are carrying out 'normative research'. Aimed at resolving technical and scientific problems, it can help create a robust and valid standard. **Two types of normative research exist:**

- ◆ Pre-normative research (PNR). RTD likely to support future trends in standardization (i.e. work anticipating future standards).
- ◆ Co-normative research (CNR). RTD in direct interaction with ongoing and/or planned standardization activities, usually proposed by technical committees to progress items in their agreed work programme.

How do I get funding for normative research?

5.1 Funding Normative Research in Europe

In the past EC RTD Framework Programmes (FP) have had specific routes for funding normative research. In FP4 there was a horizontal activity dedicated to 'Standards Measurement and Testing' (SMT) and in FP5 the Competitive and Sustainable Growth Programme (GROWTH) included a generic activity on 'Measurement and Testing'. In addition under the other FP5 thematic programmes (eg IST, LIFE), normative research projects were considered on their merits along with all other projects. Many FP5 projects are still live and could potentially exploit their results through standardization.

Under the current Framework Programme FP6, normative research is considered on its merits within each of the seven thematic areas. In addition, calls relevant to pre-normative research may be included within two of the cross-cutting research activities that complement research funded in the thematic areas, namely 'Specific SME Activities' (Collective Actions) and 'Research for Policy Support'.

The total budget for FP6 is €16.2 billion; securing funding for normative research is most likely to be successful when included within larger projects such as Integrated Projects or Specific Targeted Research Projects. For more information on FP6, please visit www.cordis.lu/fp6/activities-print.htm.

5.2 International Normative Research

When it is recognised that there are no adequate standards for a particular product or service, the first step to developing a new one is to conduct a round robin or interlaboratory comparison. To gain wider acceptance these exercises, which are often initiated by standards research organisations or by trade associations, are carried out internationally.

An example of international co-ordination of normative research is that undertaken in the materials area. The Versailles Project on Advanced Materials and Standards (VAMAS) was conceived in 1982 following an economic summit meeting held by the "G7" Heads of State and representatives from the EU.

The main objective of VAMAS is to support trade in high technology products, through international collaborative projects aimed at providing the technical basis for drafting codes of practice and specifications for advanced materials. One of the principal methods used by VAMAS is to conduct round robins on test methods in the early stages of development to determine whether these have any validity as future standards. The scope of the collaboration embraces all agreed aspects of science and technology concerned with advanced materials, including materials technology, test methods, design methods and materials databases that are required as a precursor to the drafting of standards.

Funding of VAMAS projects is carried out on the work sharing principle, each country paying its own expenses; no funds are transferred between countries. Further information can be found at:

<http://www.vamas.org/vamasinfo.htm>

6. Writing Standards

CEN's main output is the European Standard [Europäische Norme/Norme Européenne (EN)] and in draft form prEN. The EN is a European standard where "standstill" applies, ie where work on any national standard that potentially competes with the European standard should cease. CEN committees typically produce ENs and therefore it is most likely that you would exploit your research through the development of an EN.

There are also CEN Technical Specifications (CEN/TS) and Technical Reports (CEN/TR), neither of which have to be transposed into national standards. The CEN/TS should be used where the state of the art is not yet sufficiently advanced.

Finally, the CEN Workshop Agreement (CWA) is a 'fast-track' procedure. Electronic working is encouraged and Workshops are open to countries outside Europe. Again, the CWA does not have to be transposed into national standards. See section [6.2 Developing fast-track standards](#).

Two important aspects in developing conventional standards within the CEN framework are the need to validate a standard, ie to validate the test method used to develop a standard, and to estimate the uncertainties associated with any test results (sections 6.1.5 and 6.1.6).

The CEN process for drafting standards is very similar to that used in ISO, with a common template adopted by both organisations. It can be very time consuming, so in addition to conventional standards, various mechanisms have been evolved to develop "fast track" standards, (section 6.2).

6.1 Conventional Standards

6.1.1 Defining the need

In the simplest case, a standard will be mandated during or following the publication of a Directive. Where such mandates do not exist, you will need to ensure that you can prove the need for your standard, through involving other relevant stakeholders such as end-users, manufacturers, government etc.. This can be done by achieving a consensus with all stakeholders and a few phone calls may well suffice.

6.1.2 Technical Committees (TC)

Once you have defined the need for your standard, you should establish whether there is a TC to help you take it forward. If you know of a TC then you can contact them direct, otherwise you can contact the CEN Infodesk (infodesk@cenorm.be) or your NSB.

Where a suitable TC does not exist, a new one can be formed.

This process involves a number of NSBs agreeing to the setting up of a new committee, so you will need to work with your NSB to develop a robust business case and gain approval by the CEN BT. It can be time consuming to establish a new TC and therefore you may be better to initiate one of the fast-track procedures outlined later in this section. (section 6.2). It is important to note however, that as the procedures for developing ENs and fast-track are not the same, you must be sure which route you are going down before you start; there are no special procedures for 'converting' one into the other.

Consider "Fast-Track" if no relevant TC exists

It is imperative that you or another stakeholder become a member of the TC drafting the standard. The importance of direct involvement of the stakeholders in the standardization process cannot be over-emphasized; frequently this involvement does not occur to the extent required, resulting in the development of an inappropriate standard or the failure of a standard being developed at all.

Become a member of the TC drafting the standard.

6.1.3 Exploitation of Intellectual Contribution

Exploitation of intellectual contributions of individual members of a TC, resulting from the drafting of a standard, must be assigned to CEN. However, this in no way prevents the originator from continued exploitation. An undertaking to this effect must be signed by all members of the TC at the start of each meeting. Appendix A gives the full text of this 'Exploitation Rights Assignment Statement'.

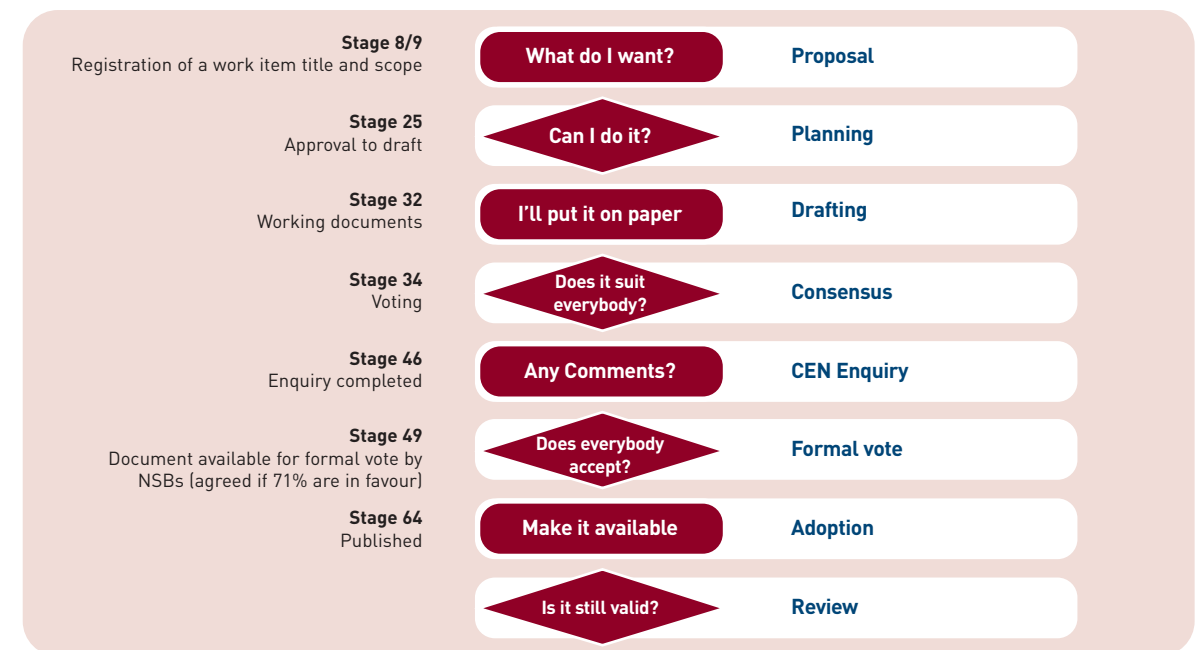
6.1.4 Drafting a standard

A very helpful source of information about most CEN operations and procedures is the Business Operation Support System (BOSS) website: <http://www.cenorm.be/boss>. Here you will find the key documents needed for drafting standards:

- ♦ Part 2 Common rules for standards work (the primary reference)
- ♦ Part 3 Rules for the Structure and Drafting of European Standards (PNE-Rules) <http://www.cenorm.be/boss/supmat/refdoc/ir3/resources/ir301.pdf>
This gives detailed instructions on structure and wording of a standard.
While individual members of a TC or WG would not need to study these in depth, some familiarity is advised in order to speed the drafting process.

A template exists for drafting standards, that has been agreed for both CEN and ISO. It is most likely that the convener of your Working Group will obtain and complete the template, which is currently available from CEN Management Centre or ISO and which will be available for download from the CEN website towards the end of 2003.

CEN has defined a number of stages for the drafting procedure; these stages have a formal numbering system from 8- 74, although in most cases many of the stages are omitted/not needed. The "normal" procedure involves at least the following key stages:



A complete listing of all the stages can be found on the BOSS web site <http://www.cenorm.be/boss/prodpro/stages/oldstgcd.htm>

6.1.5 Validation

An essential element in any normative research project is to build into the work a "round robin" that will test the validity of the test method that is being drafted. A suggested list of factors you should consider when designing a round robin has been proposed by the VAMAS organisation (<http://www.vamas.org/sect42.htm>).

6.1.6 Uncertainty

The work carried out in your "round robin" will allow estimation of uncertainty associated with the standard. The procedure for estimation of uncertainties is explained in the internationally recognized document "Guide to the Expression of Uncertainty in Measurement" [3]. Also a very helpful source of information is the SMT project UNCERT [4] and UNCERT-AM (which disseminates the results of UNCERT). Worked examples of estimates of uncertainty are given in the various Codes of Practice that were developed for seventeen different types of mechanical test for materials.

6.2 Developing Fast-Track 'Standards'

Drafting a standard can be a lengthy process, in the best cases, two years is probably the shortest time that can be reasonably expected, although often at least double that time is common. CEN has two mechanisms for "fast tracking"; CEN Technical Specification and CEN Workshop Agreement.

6.2.1 CEN Technical Specification (CEN/TS)

This serves as an early normative document where the state-of-the-art or best practice is not yet capable of being ascertained as the technology is at an early stage of development and in flux. Again you should define the need for your standard and identify the appropriate TC. For a CEN/TS, no standstill or public enquiry is required, voting by NSBs is by a weighed majority and it would normally have a life of 2-3 years.

6.2.2 CEN Workshop Agreement (CWA)

This new publication is a more flexible and timelier alternative to the traditional EN, but one that still possesses the authority derived from the openness of participation and agreement inherent in the operations of CEN and its national members.

A CWA is developed by the participants of a CEN Workshop who are interested in developing one or more reference documents where the lack of openness of a de facto standard (developed by an industrial consortia) and the additional rigour and wider consensus of an EN is judged to be inappropriate. Participation in workshops is open to anyone and widely advertised by its proposers, CEN and CEN's member bodies.

The CWA may be further developed into an EN (if such additional authority is required by the market), by transferring it into the traditional CEN committee process. A CWA should be valid for a limited duration of three years or until its transformation into another deliverable.

An example of one of the first CWAs (approval of membranes for drinking water) can be found on the CEN website: <http://www.cenorm.be/standardisation/techbodies/workshops/otherthanICTws1/resources/cwa001.ad.pdf>

7. Frequently asked questions

- 1 I have carried out some research work and I can see that wider exploitation could be possible by developing a standard – how do I get involved?
- 2 What happens if there is no relevant TC ?
- 3 What are the benefits of exploiting my research through standardization?
- 4 How long does it take to develop a standard?
- 5 How do I check whether a relevant standard already exists?
- 6 How do I define the need for a standard?
- 7 How early should I contact a CEN TC ?
- 8 How do I initiate new work?
- 9 What is an NSB?
- 10 What is the role of my NSB in helping me exploit my research through standardization?
- 11 What is CEN?
- 12 What is the role of CEN in helping me exploit my research through standardization?
- 13 What are CEN's outputs?
- 14 How do I decide whether to develop a conventional or fast track standard?
- 15 Are National and CEN standards the same?
- 16 What is "standstill"?
- 17 What about other standards, do they compete with CEN standards?
- 18 Can I alter the standard of another SDO?
- 19 What is normative research?
- 20 What is a mandated standard?
- 21 What is a Directive?
- 22 What is a New Approach Directive?
- 23 What is a harmonized standard?
- 24 What about IPR?
- 25 Can I be trained to write standards?
- 26 Can I get paid to sit on a CEN Technical Committee?
- 27 Does it cost any thing to be involved in standardization?

1 **I have carried out some research work and I can see that wider exploitation could be possible by developing a standard – how do I get involved?** Contact your NSB to seek help. Ask whether a TC exists that could cover the topic that interests you and ask them to check that there are no existing standards.

Contact the Chairperson of that TC; if they agree with the topic, it will need to be formally approved as a new work item. Normally to get approval for a new work item the TC will propose the activity and the BT will decide whether to proceed. See sections [6.1 Conventional Standards](#) and [6.2 Fast Track Standards](#).

2 **What happens if there is no relevant TC?** In this case again contact will have been made with your NSB and they will propose the establishment of a new TC to carry out the work. This proposal will be made to the CEN Technical Board. Before this can be approved a business case will need to be prepared to ensure stakeholder involvement. See section [6.1.2 Technical Committees](#).

3 **What are the benefits of exploiting my research through standardization?** Competitive advantage, access to other experts, quality, networking, International reputation and enhanced recognition. See section [2.3 Why Exploit your research through standards?](#)

4 **How long does it take to develop a standard?** This will vary a great deal, the target is 2-3 years before publication, but typically 4 years is about average.

5 **How do I check whether a relevant standard already exists?** There are two sources of information; contact your NSB and/or the CEN Infodesk.

6 **How do I define the need for a standard?** It is necessary to contact all stakeholders and develop a consensus that a new standard is required. Then contact your NSB to discuss the best way forward. There must be a feeling amongst a large number of Members that a European Standard is really necessary. See section [6.1.1 Defining the Need](#).

7 **How early should I contact a CEN TC ?** As soon as possible after deciding that you want to be involved in the preparation of a new standard, or identifying deficiencies in existing standards.

8 **How do I initiate new work?** Generally this will be done through the secretariat of an existing TC, Where no relevant TC exists, contact should be made with your NSB. If the work proposed is within the scope of a TC, then the TC can approve the work. See sections [6.1 Conventional Standards](#), [6.2 Fast-Track Standards](#),: <http://www.cenorm.be/boss/prodpro/flowchrt/fl001.htm> and <http://www.cenorm.be/boss/supmat/guidance/gd046.htm>.

9 **What is an NSB?** NSBs (National Standards Bodies) are the organisations legally responsible for standards in a given country, eg DIN in Germany. See section [3.1 National and Sub-national standards](#).

10 **What is the role of my NSB in helping me exploit my research through standardization?** Your NSB will help you identify existing relevant standards and Technical Committees, guide you through the different stages of drafting a standard, carry out the formal work associated with preparation for voting and getting work approved in the first place. Generally, any help you need, your NSB should be your first contact point. See section [8 NSB Contact Details](#).

11 **What is CEN?** CEN (European Committee for Standardization) is the standards body for Europe, together with CENELEC and ETSI. In the vast majority of cases standards in Europe are developed through CEN and supported by its membership of NSBs. All NSBs contribute to CEN in terms of personnel and funding. See section [4.1. CEN Overview](#)

12 **What is the role of CEN in helping me exploit my research through standardization?** CEN can help you identify relevant existing standards and Technical Committees (TCs). CEN also approves the setting up of new TCs, Working Groups (WGs) and individual projects that lead to standards. CEN administers the enquiry and voting procedures and ensures that the standards are written in the correct format. See section [4.3 CEN Structure](#)

13 **What are CEN's outputs?** The main outputs of CEN are standards (ENs), technical specifications (CEN/TS), technical reports (CEN/TR), and workshop agreements (CWA). See sections [6.1 Conventional Standards](#) and [6.2 Fast Track Standards](#)

14 **How do I decide whether to develop a conventional or fast-track standard?** Generally for the longer-term a conventional standard (EN) should be considered, however this can take at least 2-3 years, so if standardization is urgently needed, for example for new technology, a fast-track standard should be implemented initially. Also if no relevant CEN Technical Committee (TC) exists to develop your standard, it is worth considering a fast-track standard rather than setting up a new TC. See sections [6.1 Conventional Standards](#) and [6.2 Fast Track Standards](#)

15 **Are National and CEN standards the same?** All new standards produced in Europe by CEN are simultaneously adopted by CEN member nations. Dual numbering systems are used, for example, EN 71, DIN EN 71 and BS EN 71 are technically identical.

16 **What is "standstill"?** Work ceases on the development of a national standard if it competes with the development of European Standard.

17 **What about other standards, do they compete with CEN standards?** There is an agreement with ISO that incorporates dual development of standards with CEN (Vienna Agreement). See section [4.2 Agreements with National and International Standards Organisations](#). In other cases, while there is competition, collaboration is also possible, so it is advisable to consult your NSB to determine how to proceed.

- 18 **Can I alter the standard of another SDO?** You should seek permission of the SDO and contact your NSB; care needs to be taken over copyright issues.
- 19 **What is normative research?** Normative research is research that can be used to draft standards. See section [5 Normative Research](#).
- 20 **What is a mandated standard?** Mandated standards, as the name implies, are required and arise as a result of a political request from the EU and EFTA. They are addressed to CEN, in support of an action from the EC. This can be in support of legislative work such as a directive or in support of industrial policy from the EC. See section [4.5 Mandated Standards and Directives](#).
- 21 **What is a Directive?** Directives are issued by the EU and are legally binding. They state the objectives to be achieved but leave each state to develop its own legislation. See section [4.5 Mandated Standards and Directives](#).
- 22 **What is a New Approach Directive?** New Approach Directives define the essential requirements that products must meet when they are put on the market, but, in contrast to the Old Approach Directives, technical specifications of how to do so, are not included. See section [4.5 Mandated Standards and Directives](#).
- 23 **What is a harmonized standard?** A harmonized standard is one that has been drafted to comply with a New Approach Directive. They are voluntary, but when applied, products conforming to that standard are presumed to conform to the respective Directive. See Section [4.5.1 Harmonized Standards](#).
- 24 **What about IPR?** For CEN TC members there is a requirement to assign exploitation of intellectual contributions to CEN, as a result of drafting a standard. However, it in no way prevents the originator from continued exploitation. See [Appendix A](#) and [CEN/CENELEC Guide 8](#) for further details: <http://www.cenorm.be/boss/supmat/refdoc/mm008.htm>.
- 25 **Can I be trained to write standards?** Yes, most NSBs run training courses. See section [8 Useful Contacts for your NSB](#).
- 26 **Can I get paid to sit on a CEN Technical Committee?** It is unlikely you would be paid if you have not been previously involved in standardization, however, the chairperson of a TC may receive some form of subsidy, either from CEN or their own country.
- 27 **Does it cost anything to be involved in standardization?** It will almost certainly cost you some time, travel and accommodation expenses, but this varies and you are advised to check with your [NSB](#).

8. Useful Contacts & Sources of Information

CEN Management Centre

36, rue de Stassart, B-1050 Brussels
 Telephone: + 32 2 550 08 11
 Fax: + 32 2 550 08 19
<http://www.cenorm.be>

CEN Infodesk

infodesk@cenorm.be
 Telephone: + 32 2 550 08 11
 Fax: + 32 2 550 08 19

CMC publications

Contact your NSB, or:
 ON - CEN Sales Point
 Heinestraße 38, A-1020 Vienna, Austria
 Fax: + 43 1 213 00 818
http://www.on-norm.at/cen/index_e.htm

ISO Central Secretariat:

International Organization for
 Standardization (ISO), 1,
 rue de Varembé, Case postale 56,
 CH-1211 Geneva 20, Switzerland
 Telephone + 41 22 749 01 11
 Fax + 41 22 733 34 30
<http://www.iso.ch/iso/en/ISOOnline.frontpage>

NSB Contact details:

<http://www.cenorm.be/aboutcen/whatis/membership/members.htm> (Members)

<http://www.cenorm.be/aboutcen/whatis/membership/affiliates.htm> (Affiliates)

9. Abbreviations

ASME	American Society of Mechanical Engineers	EU	European Union
ASTM	ASTM International (formerly: American Society for Testing and Materials)	FP	Framework Programme
BOSS	Business Operation Support System	IEC	International Electrotechnical Commission
BSI	British Standards Institute	ISO	International Organization for Standardization
BT	Technical Board [Board Technical] (CEN)	ITU	International Telecommunications Union
CEN	European Committee for Standardization (Comité Européen de Normalisation)	NSB	National Standards Body
CEN STAR	CEN BT WG on Standardization and Research	OJ	Official Journal of the European Union (formerly: OJEC)
CEN/TS	CEN Technical Specification	PASC	Pacific Area Standards Congress
CENELEC	European Committee for Electrotechnical Standardization	PNR	Pre-normative research
CMC	CEN Management Centre	prEN	Draft European Standard
CNR	Co-normative research	RTD	Research and Technology Development
COPANT	Pan-American Standards Commission	SDO	Standards Development Organization (e.g. ISO, CEN and NSBs)
CRM	Certified Reference Materials	SMT	Standards Measurement and Testing
CWA	CEN Workshop Agreement	TBT	Technical Barriers to Trade
DIN	Deutsches Institut für Normung	TC	Technical Committees (CEN, CENELEC and ISO)
EC	European Commission	TWA	Technical Working Areas (VAMAS)
EEA	European Economic Area	VAMAS	Versailles Project on Advanced Materials and Standards
EFTA	European Free Trade Association	WG	Working Group (CEN and ISO)
EN	European Standard [Europäische Norme, Norme Européenne]	WTO	World Trade Organisation
ESB	European Standards Body		
ETSI	European Telecommunications Standards Institute		

10. References

- [1] "European standardization in a global context" p 9, ISBN 92-9097-013-8 published by the CEN Management Centre, Brussels
- [2] "Guide to the implementation of directives based on the New Approach and the Global Approach" ISBN 92-828-7500-8, Office of the Official Publication of the European Communities, Luxembourg, 2000, also available on the Internet at <http://europa.eu.int/comm/enterprise/newapproach/newapproach.htm>
- [3] BIPM, IEC, IFCC; ISO, IUPAC, OIML, "Guide to the Expression of Uncertainty in Measurement". International Organisation for Standardization, Geneva, Switzerland, ISBN 92-67-10188-9, First Edition, 1993. [This Guide is often referred to as the GUM or the ISO TAG4 document after the ISO Technical Advisory Group that drafted it]. BSI (identical), "Vocabulary of metrology, Part 3. Guide to the Expression of Uncertainty in Measurement", PD 6461: Part 3: 1995, British Standards Institution.
- [4] Manual of Codes of Practice for the determination of uncertainties in mechanical tests on metallic materials. Project UNCERT, EU Contract SMT4-CT97-2165, Standards Measurement & Testing Programme, Published by National Physical Laboratory, UK, ISBN 0 946754 41 1, Issue 1, September 2000.
- [5] C K Bullough, "The determination of uncertainties in dynamic Young's modulus", UNCERT Code of Practice 13, in "Manual of Codes of Practice for the determination of uncertainties in mechanical tests on metallic materials", edited by Kandil, FA. et al, Project UNCERT, EU Contract SMT4-CT97-2165, Standards Measurement and Testing Programme, Published by National Physical Laboratory, UK, ISBN 0-946754-41-1, Issue 1, September 2000.

11. Bibliography

- "The benefits of standards", ISBN 92-9097-025-1 published by the CEN Management Centre, Brussels
- "Guide to the implementation of directives based on the New Approach and the Global Approach" ISBN 92-828-7500-8, Office of the Official Publication of the European Communities, Luxembourg, 2000
- "European standardisation in a global context", ISBN 92-9097-013-8 published by the CEN Management Centre, Brussels

Appendix A Assignment of Exploitation Rights

Assignment of Exploitation Rights

Including the 'List of Participants'

Date(s) of meeting: _____

Place of meeting: _____

* CEN/TC _____ Title _____

Secretary: (name) _____ NSO _____

* CEN/TC _____/SC _____ Title _____

Secretary: (name) _____ NSO _____

* CEN/TC _____/SC _____ Title _____

Convenor: (name) _____ Country _____

* Other structure CEN _____ Title _____

Secretariat : (name) _____ Country _____

(* Only complete that part which is appropriate)

Important note: In order to secure the legal protection of the documents elaborated collectively by the participants in CEN's standardization work (participants meaning delegates of CEN members and other experts), you are asked to accept the following terms and conditions for the assignment of the exploitation rights in your contributions to European standardization by signing the list of participants. For convenience of use this statement of assignment may also be used as the list of participants for meetings.

Exploitation Rights Assignment Statement

1. In the framework of the Berne Convention for the protection of literary and artistic works:
 - a) By signing the attached list I assign solely, exclusively and irrevocably to Comité Européen de Normalisation (CEN) for the benefit of its national members the exploitation rights in such of my intellectual contributions as are reproduced in the publications resulting from the technical work of CEN, as defined in paragraph 1.1.1 of CEN Internal Regulations Part 2. This assignment is granted free of charge, and covers the forms of exploitation specified below, throughout the world, for the total duration provided for by law. I accept that exploitation will take place without mention of my name.

- b) I accept that this assignment does not preclude me from continuing to exploit my own copyrightable contribution for my own purposes provided that such exploitation does not adversely affect the exploitation of the publications specified in (a) above.
2. Should I offer intellectual contributions for which I do not personally hold the copyright, I undertake to declare this to CEN or an appropriate official of one of its member bodies and to name the holder of the copyright if known to me.
3. These Terms and Conditions are subject to Belgian law.

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Name	Initials	Signature	Date	Representing	Country

