IPR Helpdesk

CEN CENELEC

Fact Sheet

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How to reap the benefit of standardisation in R&D

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Introduction

The key role of standardisation as a bridge between research, innovation and markets has been recognised in recent political initiatives by all of the EU institutions. At a time when Europe needs more innovation in order to remain competitive at global level, standardisation can connect research and innovation with the market, and contribute to achieving the goals of the Europe 2020 strategy in terms of smart, sustainable and inclusive growth.

This fact sheet seeks to improve the mutual awareness and collaboration between standardisation on the one side and the research communities and innovators on the other. While doing so, this document focuses on an aspect that is close to the researcher's heart: can they participate in and contribute to standardisation without losing the opportunity to exploit their research outcomes through other channels?

1. What are standards and who develops them?

A standard is a document, established by consensus and approved by a recognised body, which provides for common rules, guidelines or characteristics for activities or their results and having the purpose of achieving an optimum degree of order in a given context.

In Europe, the three recognised European Standards Organisations are:

- **CEN** (the European Committee for Standardization),
- **CENELEC** (the European Committee for Electro-technical Standardization), and
- **ETSI** (the European Telecommunications Standards Institute)

The European IPR Helpdesk is managed by the European Commission's Executive Agency for Competitiveness and Innovation (EACI), with policy guidance provided by the European Commission's Enterprise & Industry Directorate-General.

European Commission

CEN & CENELEC

The members of CEN and CENELEC are the National Standards Bodies and Committees in 33 European countries: the 27 European Union countries, Croatia, the Former Yugoslav Republic of Macedonia (FYROM) and Turkey plus three countries of the European Free Trade Association (Iceland, Norway and Switzerland).

Through Technical Committees and other groups of interested stakeholders, the ESOs provide platforms for the development of European Standards and other consensus-based publications.

The *CEN-CENELEC Management Centre*, located in Brussels, is in charge of the daily operations, coordination and promotion of all CEN and CENELEC activities. Its Research Helpdesk (research@cencenelec.eu) provides support to the research and innovation community on standards issues. A dedicated team of experts help project proposers analyse standardisation opportunities in their field and give advice on how standards can be integrated into project proposals.

Although there are many thousands of standards of various types, they can nevertheless be categorised into four major types:

- **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.;
- **Organisation 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.

In most cases, the initiative to develop a new standard is taken by interested stakeholders who consider that a particular standard would be useful as a way to address specific needs. Other interested parties then join the standardisation activities at national, international or European levels. In this process, companies, academic experts, researchers, SMEs, consumers and regulators bring together their ideas and experience concerning products, materials, processes or services in order to agree upon and produce a standard.

Standards are thus drafted by experts in the specific field covered by the standard. The CEN or CENELEC role is to facilitate, control and guarantee this process. Both organisations publish a range of documents:

European Standards (ENs), Technical Reports (TRs), Technical Specifications (TSs) and Workshop Agreements (CWAs).

European Standards (ENs) are settled in Technical Committees (TCs), composed by representatives of national delegations. The development process includes a public consultation period (national enquiry) before standards are voted by the CEN or CENELEC national members. The production of an EN may take up to 3 years. Thereafter, ENs have to be implemented by the CEN or CENELEC national members as a national standard with the consequent withdrawal of any conflicting national standards.

Other deliverables from the standardisation process are Technical Reports (TRs), Technical Specifications (TSs) and CEN or CENELEC Workshop Agreements (CWAs); these deliverables have not gone through a national enquiry process and do not require to be implemented as national standards. The consensus and approval processes are here quicker than for ENs, with delivery times of less than 2 years for a TR or TS and possibly less than one year for a CWA. While TRs and TSs are developed in TCs under the national delegation principle, CWAs are developed in consensus working groups (called CEN or CENELEC Workshops) which are open to direct participation of any interested party.

CEN and CENELEC collaborate with their international counterparts ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) through the respectively Vienna and Dresden Agreements. The aim is to coordinate the standardisation work between the European and international level and to optimize the use of available resources and expertise for the benefit of stakeholders active both at the European and international level.

The agreements enable the adoption of the same text as both international and European Standard (EN), through a single approval process.

2. Benefits of standardisation

Standards facilitate innovation by providing a balance between collaboration and competition.

More specifically:

1. Standards promote innovation: they help promote innovative products and services by building confidence among industrial users and consumers and creating a large scale market.

2. Standards further the creation of new markets: they can help ensure compatibility and interoperability of products and services. The end-user benefits from reduced prices.

3. Standards ensure quality of products: they improve the quality of products, applying state-of-the-art technologies and techniques and at the same time ensuring safety aspects.

4. Standards support research: they codify and disseminate the state of the art, and offer a level playing field for competition during the next phases of R&D.

5. Standards enhance visibility: standardisation is essential for market penetration of R&D results, helps reduce production costs and avoids lock-in to proprietary or immature solutions.

6. Standards facilitate trade: they support exports by removing technical barriers to trade in the European Single Market, and globally by aligning with international standards as far as possible. In Europe they give access to 600 million consumers.

7. Standards strengthen regulation: by implementing referenced standards, industry can meet legal requirements for placing goods on the market. This is known as "New Approach Standardisation"[1].

8. Standards increase safety and environmental protection: they lay down basic rules not just for safe, environmentally sound products, but also to ensure that companies make standards a fundamental part of their culture in fields such as safety, consumer protection and the environment.

9. Standards accelerate time-to-market: standardisation is the best tool to ensure a fast market introduction of innovative products and technologies at the earliest stage possible. Standardisation can in fact shorten the cycle between initial concept and global market access.

[1] The 'New Approach' was first created by the European Council in May 1985. It is the means by which open, voluntary standardisation can support regulations concerning products on the European market. Since then, European Union Directives define 'essential requirements' (e.g. related to health, safety and environment) that products must meet before they can be placed on the European market. In these circumstances, manufacturers may choose any technical solution that fulfils the essential requirements. If they follow the relevant harmonised European Standard(s), they benefit from a 'presumption of conformity' to the essential requirements set out in the Directive. If they choose their own method, they must provide a 'technical file', which sometimes must include reports from recognised testing agencies that they are in conformity with the relevant Directive. Following a European Standard is therefore the simplest route to accessing the European Single Market. Under an EU Council and Parliament Decision (768/2008/EC), the 'New Approach' has been enhanced and extended to all sectors (including services); more information is available, among others, from www.newapproach.org

Researchers and/or research organisations can also benefit from participating in the standardisation process in terms of:

- *Enhancement of recognition and reputation;*
- *Networking with other researchers, industries and stakeholders for future research and innovation;*
- *Inclusion of all interested parties in framing the rules relevant for future research.*

3. Including a standards action in your project

CEN and CENELEC promote an "Integrated Approach between Research, Innovation and Standardisation". In this vision, standardisation is not an afterthought of a research or innovation project but should be considered right from the start.

Already at the project definition stage, it is important to know whether any standards exist that are relevant to a certain research domain. This is because standards codify the state of the art and promote the use of recognized methodologies, processes or terminology; as a result one can avoid reinventing the wheel.

If there is no published standard that fully meets the needs of the project proposers and where a standard would bring value to the project in the context of the exploitation of the research results, a research consortium might decide to either develop new standardisation activities, or to contribute to on-going standardisation work.

Identified standardisation needs can be included as an activity of the project proposal. Within the CEN-CENELEC Management Centre, a dedicated team informs and supports the research community in understanding and integrating standardisation in their future R&D project, through appropriate tools, such as web pages and a Research Helpdesk. The team provides tailored advice to project consortia, informing them of already relevant standards work, and helping them put together new projects for standards on innovative products.

Considering that there is no obligation to implement Technical Specifications or CEN-CENELEC Workshop Agreements as a national standard and in view of their speed in production, TSs and CWAs may be preferred in situations where technologies have not reached yet a sufficient level of maturity, which will probably be the case where the technology directly originates from an on-going research project. Because of their nature they can be considered as stepping stones to ENs. More specifically, while they can be delivered for a technology which is at the experimental stage, and therefore not yet marketable, once the technology is mature for the market then it is possible to upgrade to the EN.

The development of a CWA can be part of the project's dissemination package and it is normally possible to deliver it within the project's timeframe.

For running projects, linking with standards (applying existing standards as well as contributing research outcomes to standardisation) will bring several benefits, as it will:

- ✓ *Enhance* the interoperability of the project's outcomes with what is already out in the marketplace, and ensure compatibility with what exists,
- ✓ *Enable* the comparison of performance of the project's results with what exists,
- ✓ *Reassure* users when the research results are exploited,
- ✓ *Disseminate* the research results to a wide community using unambiguous wording, i.e. a standard.

By doing so, a fast and easier market exploitation of the research results will be reached.

A current example is the iNTeg-Risk project, funded by FP7, which is aimed at improving the management of emerging risks related to "new technologies" in European industry. The aim of the project is to reduce time-to-market for the EU leading market technologies and promote safety, security, environmental friendliness and social responsibility as a trademark of EU technologies. One of the work-packages of iNTeg-Risk foresees the development of 6 CEN Workshop Agreements which will answer to the need to have common and neutral specifications in the field of emerging risks.

Where a project's scope closely corresponds with already on-going standardisation activities, the "Project Liaison" concept (in CEN) or the "Technical Liaison Partnership" (in CENELEC) allow representatives of the project to participate in the relevant Technical Committee and Working Group meetings as observers. The consortia's participation is without decision power, but they will have the possibility to directly explore with the Technical Committee the standardisation potential of its outcomes.

CEN and CENELEC have set a policy stating that the Brussels-based staff of the CEN-CENELEC Management Centre will not directly participate in research projects. Instead, participation happens through a National Member, which will give the necessary support to any standardisation actions needed by or resulting from the project. This is fully in line with the existing standardisation processes where the managerial/secretarial support to the standards development is taken care of by the CEN or CENELEC Member.

4. Intellectual Property of the researcher participating in standardisation

4.1. Copyright

CEN and CENELEC Standards (or other technical documents published by CEN and CENELEC) are publications that are protected by copyright.

The development of a standard is a collaborative exercise by a group of technical experts working together in a CEN or CENELEC Technical Committee, Working Group or Workshop. The standards are copyrighted collective work made by a set of independent, original inputs from experts (authors).

More precisely, technical experts (including researchers) who create the content of a standard are requested to sign an engagement in which they assign the exploitation rights of their contributions to the European Standardisation process to CEN or CENELEC.

The original copyright holder of a contribution to the European Standardisation process (e.g. a researcher) is not precluded from continuing to exploit his own contribution for its own purposes, provided that such use does not adversely affect the exploitation of the common work, which is the standard itself. Deviations from this approach are only possible if agreed by the CEN-CENELEC Joint Commercial Advisory Group.

There is therefore no objection that a researcher publishes an article with his findings in a specialised journal or in a conference, but it shall not infer in this publication that the article is an alternative means of accessing, in part or in full, the contents of a CEN or CENELEC standard.

4.2. Patents

Standardisation is intended to put ideas into the public domain, whereas patents intend to make an invention the property of the inventor for a certain limited period.

Accordingly, beliefs may exist that standards and patents are in opposition, whereas they can in fact fit closely together.

This can be seen from the fact that standards are usually formulated in terms of results to be achieved rather than technical solutions. The patented technology is then only one possible approach to comply with the requirement of the standard. But what about the so-called "*essential patents*", i.e. those patents claiming one or more inventions that are necessary for implementing the standard and for which the use of the patented invention would necessarily mean an infringement of the patent by the implementer of the standard, unless such use is permitted by the patent holder?

For these *essential patents*, CEN and CENELEC endorsed the Common Patent Policy adopted by ISO, IEC and ITU (the International Telecommunication Union). This Patent Policy requests stakeholders participating in the technical standardisation work, and in particular the patent holders, to proceed to early disclosures and identification of patents that may be considered, to the best of their knowledge, to be essential for the future use of the standards under development. When disclosing their own patents, patent holders are requested to use the declaration form which is part of the CEN-CENELEC Guide 8.

CEN and CENELEC make available to the public a common *patent information list* composed of the information included in the declaration forms. The Patent Information list may contain information on specific patents, or may contain information about compliance with the Patent Policy for a particular deliverable.

In the case of essential patents in standards, patents holders will have to assure that they are willing to negotiate licences under **F**air, **R**easonable **A**nd **N**on-**D**iscriminatory terms and conditions (so-called **FRAND** conditions) with applicants throughout the world.

Today, essential patent claims are numerous in telecommunications and network technologies, audio/video coding standards, computer and consumer electronics technologies, etc.; essential patent claims in CEN and CENELEC are likely to increase because of entering new areas of standardisation.

CEN and CENELEC are not involved in evaluating patent relevance or essentiality with regard to deliverables. CEN and CENELEC will not interfere with licensing negotiations, or engage in settling disputes on patents. This is left to the parties concerned.

Useful Resources

For further information also see:

- *CEN-CENELEC focal page to Research & Innovation:* http://www.cencenelec.eu/research/Pages/default.aspx
- *CEN Home page:* http://www.cen.eu
- *CENELEC Home page:* http://www.cenelec.eu
- *CEN-CENELEC Guide 8 "CEN-CENELEC Guidelines for Implementation of the Common IPR Policy on Patent (and other statutory intellectual property rights based on inventions)", available at* ftp://ftp.cencenelec.eu/EN/EuropeanStandardization/Guides/8_CENCLCGuide8.pdf

GET IN TOUCH

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For comments, suggestions or further information, please contact

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ABOUT THE EUROPEAN IPR HELPDESK

The European IPR Helpdesk aims at raising awareness of Intellectual Property (IP) and Intellectual Property Rights (IPR) by providing information, direct advice and training on IP and IPR matters to current and potential participants of EU funded projects focusing on RTD and CIP. In addition, the European IPR Helpdesk provides IP support to EU SMEs negotiating or concluding transnational partnership agreements, especially through the Enterprise Europe Network. All services provided are free of charge.

Helpline: The Helpline service answers your IP queries within three working days. Please contact us via registration on our website (www.iprhelpdesk.eu), phone or fax.

Website: On our website you can find extensive information and helpful documents on different aspects of IPR and IP management, especially with regard to specific IP questions in the context of EU funded programmes.

Newsletter & Bulletin: Keep track of the latest news on IP and read expert articles and case studies by subscribing to our email newsletter and Bulletin.

Training: We have designed a training catalogue consisting of nine different modules. If you are interested in planning a session with us, simply send us an email.

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