



# CEN-CENELEC GUIDE 39

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**The role of standards in  
support of Technology Transfer**

**Edition 1, March 2022**

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**European Committee for Standardization**

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## **European foreword**

This document (CEN-CENELEC Guide 39:2022) has been prepared by CEN-CENELEC BT WG 3 'STAndardization, Innovation and Research (STAIR)'.

It is intended for use by the CEN and CENELEC Members in their contacts with Research and Innovation stakeholders.

Standardization and innovation are often presented by arguing that standardization can block innovation. This guide helps to counter this argument by highlighting the role of standards in promoting innovation in the market place.

NOTE Where the expression CEN-CENELEC appears it refers to CEN and CENELEC jointly.

### 1 Why this Guide?

Technology transfer (TT) refers to the process of conveying results stemming from scientific and technological research to the market place and to wider society, along with associated skills and procedures, and is as such an intrinsic part of the technological innovation process.

Technology transfer covers the complex value chain linking research to its eventual societal deployment.

Relevant in any such value chain are<sup>1</sup>:

- to protect the technical invention
- to exploit it; and
- to bring it to market.

When browsing relevant material on the web, it strikes that typically the protection of intellectual property and related licensing are addressed (e.g. [https://ec.europa.eu/info/research-and-innovation/law-and-regulations/technology-transfer\\_en](https://ec.europa.eu/info/research-and-innovation/law-and-regulations/technology-transfer_en)).

Yet, it is obvious that innovations, when brought on the market, also will depend on standards and have to consider standardization.

OECD in its Oslo Manual 2018<sup>2</sup> recognizes standardization as an innovation activity. A variety of opportunities of using standards and standardization as innovation indicators has been investigated<sup>3</sup>.

Nevertheless, “while increasing ground has been covered by scholars on the basic picture regarding economic impacts of standards, there is need for more granular evidence, particularly in fields like open innovation research (...) or technology and knowledge transfer research. In the context of the latter, the topic of indicator development seems a particularly pristine field. For example, [...] a variety of channels for technology transfer, but not standards or contributions to standardization.”<sup>4</sup>

It is fair to say though that the EC within its “EU valorisation policy”<sup>5</sup> recognizes the value of standards as a crucial tool to get the most out of research results as standards “form a common language that allows researchers, people and industry to communicate, produce and commercialise products and services”.

In this Guide, we therefore will address:

- the benefits of standards and standardization to innovators;
- the links of intellectual property, patents and licensing with standardization.

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<sup>1</sup> [https://knowledge4policy.ec.europa.eu/technology-transfer/what-technology-transfer\\_en](https://knowledge4policy.ec.europa.eu/technology-transfer/what-technology-transfer_en)

<sup>2</sup> OECD/Eurostat (2018), Oslo Manual 2018: Guidelines for Collecting, Reporting and Using Data on Innovation, 4th Edition, The Measurement of Scientific, Technological and Innovation Activities, OECD Publishing, Paris/Eurostat, Luxembourg, <https://doi.org/10.1787/9789264304604-en>

<sup>3</sup> Standardization and Standards as Research and Innovation Indicators : Current opportunities and future challenges; Knut Blind, 2016; available from <https://www.oecd.org/sti/049> - BlueSky\_Standards\_Blind.pdf

<sup>4</sup> Radauer, Alfred (2020) Driving from the fringe into spotlight. The underrated role of standards and standardization in RTDI policy and evaluation. *fteval Journal for Research and Technology Policy Evaluation* (51). pp. 59-65. ISSN 1726-6629; available from <https://repository.fteval.at/547/>

<sup>5</sup> [https://ec.europa.eu/info/research-and-innovation/research-area/industrial-research-and-innovation/eu-valorisation-policy\\_en](https://ec.europa.eu/info/research-and-innovation/research-area/industrial-research-and-innovation/eu-valorisation-policy_en)

NOTE This Guide is intended to be of a general nature; developments such as recommended approaches to data standardization, whilst increasingly important (“industrial data is worth its weight in gold when it comes to developing new products and services. But the reality is that 80% of industrial data is still collected and never used. This is pure waste.”<sup>6</sup>), are not addressed here. How standards will support the industrial data value chain is a work in progress. For more information, one can access the discussions at the stakeholder workshop that took place on 28 September 2021.<sup>7</sup>

## **2 To whom is this Guide addressed?**

The main target audience of this Guide are the researchers and providers of new technologies who want to see their research outcome or new technology taken up by the market as well as innovators, entrepreneurs and start-ups who want their innovation to enter the market, and are interested to know whether and how standardization can help them to meet their objective.

The use of standardization in support of the uptake of an innovation by the market consists of:

- the application of existing standards on which the innovative product/service relies;
- contributions to and participation in the standardization process, to ensure the standards accommodate the innovative product/service.

Whilst both aspects will be touched upon in this Guide, most attention will go to the ways researchers/innovators/entrepreneurs can interact with standardization, and what it brings for them.

Another target audience of this Guide are policymakers in Science, Technology and Innovation, operators of funding programs and venture capitalists investing in technological innovation.

Consequently, the Guide contains information on how researchers and innovators can make initial contacts with the standardization community, as well as information on the ways that CEN and CENELEC can offer them to take advantage of standardization.

General information about how research and innovation can be addressed in European standardization activities and deliverables is provided in CEN-CENELEC Guide 23, “Research Consortium Bridge – Addressing Research and Innovation in European Standardization activities and deliverables”<sup>8</sup>.

## **3 Standards and Innovation**

### **3.1 How do standards help innovation?**

Standardization will help to:

1. Promote and commercialize your innovation:

Standards create trust and enable consistency, as well as ensuring interoperability. They can ease scalability and market access. This makes it much more likely that the European and international markets will respond well to your innovation.

Companies that have contributed to the drafting of the standard will have a first-mover advantage compared to those who learn about the standard once it is published and whose solutions can be then out of the standard requirements, thus needing costly adaptations or losing the market advantage of being covered by a standard.

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<sup>6</sup> State of the Union Address by President von der Leyen at the European Parliament Plenary - 16 September 2020 - available from [https://ec.europa.eu/commission/presscorner/detail/en/SPEECH\\_20\\_1655](https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_20_1655)

<sup>7</sup> <https://www.cencenelec.eu/news-and-events/events/2021/2021-09-28-ws-standards-in-support-of-the-industrial-data-value-chain/>

<sup>8</sup> <https://www.cencenelec.eu/media/Guides/CEN-CLC/cenclguide23.pdf>

## CEN-CENELEC Guide 39:2022 (E)

### 2. Comply with regulations:

The EU has an active standardisation policy that promotes standards as a way to better regulation and enhance the competitiveness of European industry. There is a variety of Directives<sup>9</sup> which contain essential requirements for products to be allowed on the EU-market and where the technical specification to provide presumption of conformity with those essential requirements is described in related harmonized standards<sup>10</sup>; the essential requirements typically address safety for health, consumers and for the environment. Being involved in the elaboration of the standards makes it much easier for your work to comply with existing regulations.

### 3. Provide in-demand customer service:

The methodologies you use to provide your services will be instantly recognized if they are covered by standards, making it easier to drive demand for them. Standards support also helps to make sure your testing methods are up-to-date and the results comparable.

### 4. Keep up with leading technologies:

Standards provide information on leading industry technologies and practices, and are the basis of continuing education through testing, certification, and more. Participating in standardization activities allows you to keep abreast of market, technology, and policy changes—knowledge of which supports your entry to market and helps to enable interoperability.

### 5. Grow your network and establish an ecosystem:

Standardization is a co-creation process that spans different roles and sectors, including those involved with new technologies. This means that you will cross paths with a whole new scope of potential partners, including potential users and customers of your novel technology. As a co-creation process, standardization also links with open innovation, a concept also promoted by the European Commission.<sup>11</sup>

### 6. Reputation:

Actively contributing to state of the art standardization will increase the recognition of your expertise and the reputation of your organization.

Examples of standardization supporting the uptake of an innovation are available from <https://www.cencenelec.eu/get-involved/research-and-innovation/standards-for-innovation-examples>.

On <https://www.standardsplusinnovation.eu/stories>, more “inspiring stories” can be found that show what standards have to offer to a researcher or innovator.

Other stories may be found on <https://www.cencenelec.eu/get-involved/research-and-innovation/cen-and-cenelec-activities/standards-innovation-awards/>, in particular the **Individual researcher/innovator** awards given to individuals who successfully introduced their research outcome or innovation into standardization, thereby creating impact for their work.

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<sup>9</sup> See [https://ec.europa.eu/growth/single-market/goods/new-legislative-framework\\_en](https://ec.europa.eu/growth/single-market/goods/new-legislative-framework_en)

<sup>10</sup> Using the terminology from Art.2, EU Reg. 1025/2012, ‘harmonised standard’ means a European standard adopted on the basis of a request made by the European Commission for the application of Union harmonisation legislation; the objective is of course the facilitation of the single market; this relies on standardization since European Standards have to be implemented as National Standards for all 34 CEN-CENELEC member countries

<sup>11</sup> “Open innovation, open science, open to the world - A vision for Europe” (2016); EC DG R&I; available from <https://op.europa.eu/s/tzfd>

### 3.2 The role of standards throughout the Innovation process

Whilst standards become more relevant where a technology matures (higher Technology Readiness Levels (TRLs)), standards do support all stages of innovation, since the subjects that can be addressed by standards cover the full innovation cycle, as illustrated by the examples suggested in Figure 1.

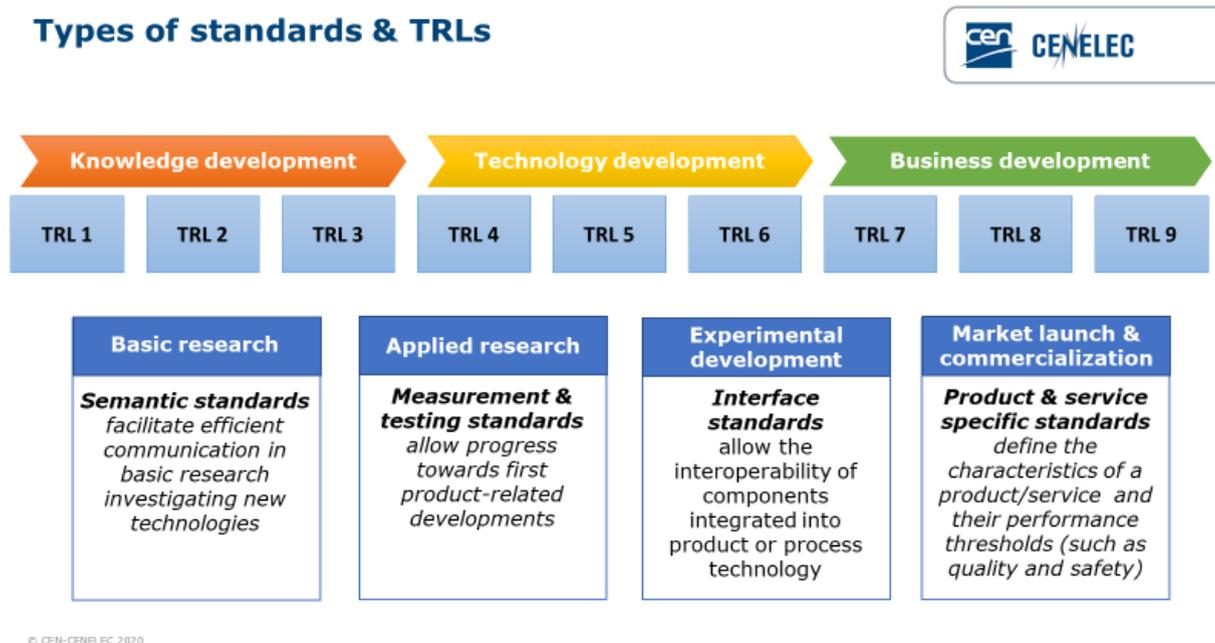


Figure 1

The two examples in Figure 2 and Figure 3 illustrate the value of standardization in support of low TRLs.

### Low TRL – Vocabularies Example 1 – Quantum Technologies

► From IEEE web -site

The screenshot shows the IEEE website for the standard P7130. It features a blue header with the title 'P7130 - Standard for Quantum Computing Definitions' and a button labeled 'ACCESS VIA SUBSCRIPTION'. Below the header, there are two sections: 'Explore This Project' with a 'Project Details' link, and 'Project Details' which states: 'This standard addresses quantum computing specific terminology and establishes definitions necessary to facilitate communication.'

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Figure 2

## Low TRL - Vocabularies Example 2 - Graphene



► From <https://www.npl.co.uk/news/2017/graphene-iso-standard>

**The world's first ISO (International Organisation for Standardization) graphene standard has been published. The standard will provide consistency across the emerging world-wide graphene industry and accelerate the 2D material's commercial exploitation**

The new international standard, led by the National Physical Laboratory (NPL), defines the terminology used to describe the many different forms of graphene and related 2D materials, supporting companies in the testing and validation of the 'wonder material'. This will provide clarity among manufacturers, suppliers, NGOs and academia, helping to unlock new applications, drive down manufacturing costs and open up industrial-scale use of graphene for applications from next-generation computer chips to smart sensors in clothing.

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**Figure 3**

## 4 What can CEN and CENELEC and their members offer to the innovator?

### 4.1 The standardization landscape

The standardization landscape is a diverse one as illustrated in Figure 4 but ensures the support of the innovator in a structured, pluralistic, transparent and consensus way.

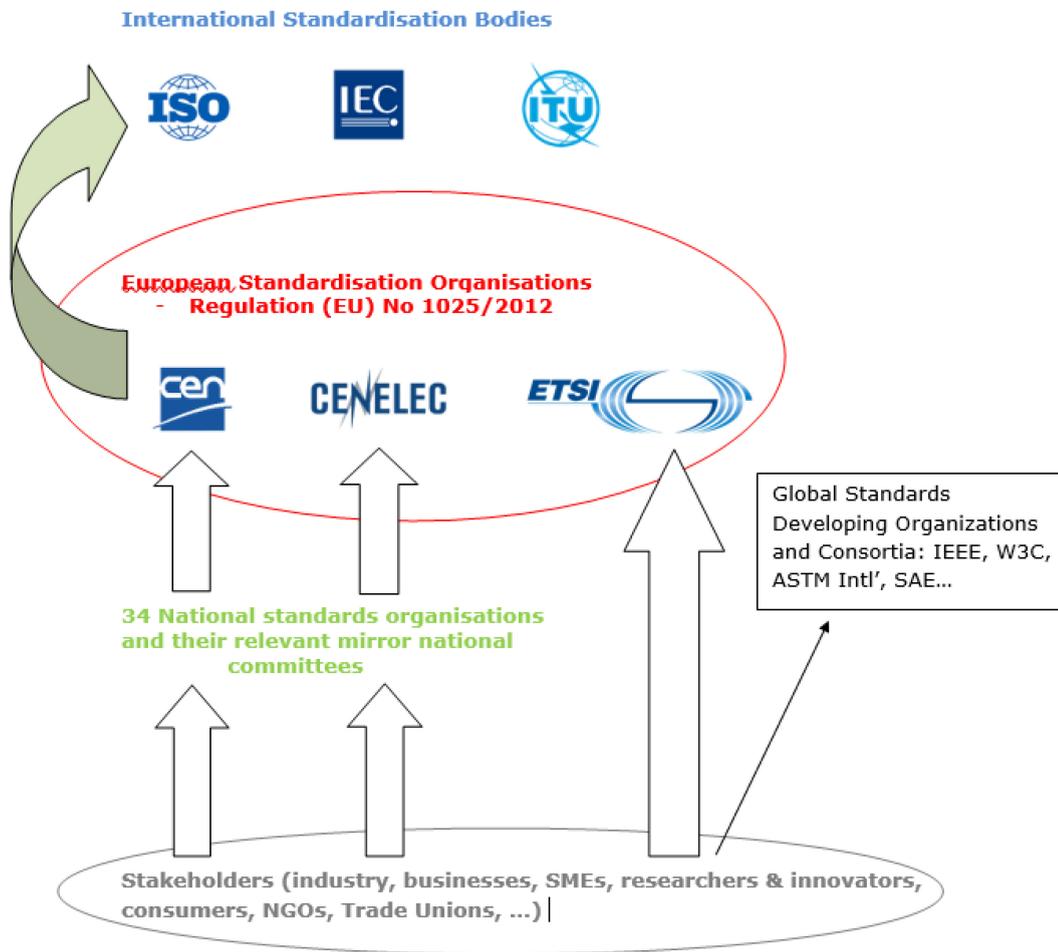


Figure 4

Through Regulation (EU) No 1025/2012, CEN, CENELEC and ETSI (the European Telecommunication Standards Institute) are the three European Standardization Organizations that are officially recognized as competent in the area of voluntary standardization for Europe. CEN and CENELEC maintains a close cooperation with ETSI, in particular in digital related topics.

In terms of scope, CENELEC activities cover electrotechnical standardization whilst the scope of CEN activities is very broad, covering among others Chemicals, Construction, Consumer products, Energy and Utilities, Defence and Security, Food and Agriculture, Healthcare, Health and Safety, Heating, ventilation and air conditioning (HVAC), Machinery safety, Services, transport and Packaging, etc. Joint activities of CEN and CENELEC cover converging technologies and ICT such as Artificial Intelligence, Cybersecurity, Blockchain, etc.

The international equivalents of CEN and CENELEC are the 'International Organization for Standardization' (ISO) and the 'International Electrotechnical Commission' (IEC) respectively. The Vienna (CEN/ISO) and Frankfurt Agreements (CENELEC/IEC) describe the cooperation between the European and global level. They enable the parallel development of both European and international standards, with the technical discussions happening only once, usually this is internationally.

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Discussions within the Technical Committees of CEN, CENELEC, ISO and IEC are based on inputs by national delegations who represent the views expressed by the related groups at national level, the national mirror groups. These mirror groups at the national level are composed of voluntary experts and stakeholders that take direct part in the writing of the standards.

In addition to the standards organizations (national, European and international) referred to in Regulation (EU) No 1025/2012, there are many other Standards Developing Organizations. Some of them have a global presence and are well known. Cooperation Agreements may then exist with ISO or IEC Technical Committees, enabling among others the publication of dual logo standards. Examples are IEC/IEEE 62704-2, ISO/ASTM 52915, IEEE/ISO/IEC 29148.

### 4.2 Contacting the CEN and CENELEC members

The thirty-four (34) CEN and CENELEC national members are also members of ISO and/or IEC, which makes them the natural initial point of contact for any researcher or innovator wishing to know about national, European or international standards and standardization. They are also the direct way to become involved.

If you want to contact your national standards body, a list of contact points can be found on <https://www.standardsplusinnovation.eu/get-started> (bottom of the page). You may also contact the dedicated CEN-CENELEC research and innovation helpdesk at [research@cencenelec.eu](mailto:research@cencenelec.eu).

### 4.3 Concrete paths to take advantage of standardization

There are various ways to connect to standardization:

- By screening existing standards on national, European, and international level, you will be able to access leading knowledge, resources and industry and market practices on the topic you are working on, so that you can avoid reinventing the wheel and be aware of the standardization existing context, and ensure interoperability.
- By accessing the national mirror group of an existing Technical Committee at European or international level, you will be able to be updated on and contribute to standardization work in progress. Where no suitable standard exists to support the market entrance of your technology you will, with the support of your national mirror group, be able to propose modifications to existing standards so that they meet your needs or to propose and even lead a new standard.
- By contributing to the development of a CEN and/or CENELEC Workshop Agreement (CWA); the CWA development happens through the direct participation of stakeholders without making use of national delegations. More information on the CWA is given in subclause 4.4.
- By joining a Technical Committee if you are a European R&I project: the Projects financed by European Research and innovation initiatives (such as Horizon 2020, Horizon Europe, the Connecting Europe Facility (CEF), the Digital Europe Programme (DIGITAL), the European Cooperation in Science and Technology (COST), etc) can participate in relevant Technical Committees of CEN and CENELEC, through the project liaison concept.

For all of these, your natural contact point is your National Standards Body.

### 4.4 The Workshop Agreement

In innovative markets there is often a request for a reference document to be quickly developed as a stepping stone to standardization deliverables, to facilitate interoperability and compatibility, enhance market uptake of innovative solutions and facilitate further incremental innovations in the market.

However, if innovative technologies, including products, processes and services, have not yet achieved a sufficient degree of stability, a European Standard may not be the best way of meeting this need, because of the nature of the standardization process and the requirement that all CEN and/or CENELEC national members shall adopt the resulting standard.

As a first entry into standardization and of particular relevance in support of innovative technologies, CEN and CENELEC have added the CEN and/or CENELEC Workshop Agreement (CWA) to their portfolio of publications. A CWA may take various forms such as text file or computer code. A CWA is developed and agreed by the participants in a temporary working group (CEN and/or CENELEC Workshop). It is designed to meet an immediate need, can be quickly developed and can be used as fast track to future standardization activities.

CWAs offer the possibility to indicate the Workshop participants and their organizations, as well as the main contributors to the CWA in the Foreword, offering a way for researchers to get their involvement in standardization recognized.

A detailed description of the CWA and its development process can be found in CEN-CENELEC Guide 29.

## **5 Intellectual Property Rights and standardization – how do they co-exist?**

### **5.1 Intellectual property – quid?**

Intellectual property is a house with many rooms. The European Commission refers to<sup>12</sup> :

- Patents
- Trade marks
- Copyright
- Trade secrets
- Design protection
- Website domains
- Database protection
- Geographical indications

Considering its main target audiences, and considering that standardization is not relevant for each and every IP category or IP aspect, in this Guide we will address patents, licensing, as well as copyrights, and highlight for each the possible links with standardization.

### **5.2 Patents and standards**

A patent is an exclusive right granted for the protection of inventions (products or processes) offering a new technical solution or facilitating a new way of doing something. The patent holder enjoys the exclusive right to prevent third parties from commercially exploiting their invention for a limited period of time. In return, the patent holder must disclose the invention to the public in the patent application. (Source: “Your Guide to IP in Europe”<sup>13</sup> authored by the IP Helpdesk.)

Whereas patents thus intend to make an invention the property of the inventor for a certain limited period, standardization is intended to put ideas into the public domain as shared knowledge.

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

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<sup>12</sup> [https://europa.eu/youreurope/business/running-business/intellectual-property/index\\_en.htm](https://europa.eu/youreurope/business/running-business/intellectual-property/index_en.htm)

<sup>13</sup> [https://intellectual-property-helpdesk.ec.europa.eu/regional-helpdesks/european-ip-helpdesk/europe-ip-guides\\_en](https://intellectual-property-helpdesk.ec.europa.eu/regional-helpdesks/european-ip-helpdesk/europe-ip-guides_en)

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Standards are indeed usually formulated in terms of results or performance requirements to be achieved rather than technical solutions or design details. The patented technology is then a possible approach to comply with the requirement of the standard but the use of alternative technologies is also possible. The possession of the patented technology may of course be a competitive advantage as one can demonstrate compliance with the requirements in the standard without having to disclose possibly sensitive information. More information can also be found in subclause 5.4 on licensing and standards.

Another aspect to be taken into account is that a standard can indirectly support the market uptake of an innovation (be it a product, service or process) by addressing backing topics, such as necessary testing methods, performance indicators, etc. The patented technology may be relevant for the standards addressing these backing topics and compliance with the standards can then be used as a trust argument in support of the market uptake of the innovation itself.

### 5.3 Standards Essential Patents (SEPs)

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 standardization 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. Patent holders will have to assure that they are willing to negotiate licences under Fair, Reasonable and Non-Discriminatory terms and conditions (so-called FRAND conditions) with implementers of the standards throughout the world.

This balanced approach ensures a reasonable return to those innovators that bring their contribution to the standards whilst allowing a fair access to the patented technology for the implementers of the standards.

CEN and CENELEC make available to the public a common *patent information list* composed of the information included in the declaration forms. However, 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.

For the researcher or innovator who considers patenting an innovation, it is important to start the patent process before introducing the novelty into standardization to avoid that the standardization documents become “prior art”. (Prior art is **any** evidence that the invention is already known<sup>14</sup>.)

The detailed CEN-CENELEC intellectual property rights (IPR) policy is described in CEN-CENELEC Guide 8 “Standardisation and intellectual property rights (IPR)”.

### 5.4 Licenses and standards

Owners of Intellectual Property could grant rights of use to another legal person, known as “licensing your IP” or may also wish to generate revenue by selling it, this is better known as “assigning” or “transferring” your IP<sup>15</sup>.

So where may standards come in here?

In subclause 3.1, we illustrated why standards are essential for the wide adoption of new technologies in the marketplace.

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<sup>14</sup> <https://www.epo.org/learning/materials/inventors-handbook/novelty/prior-art.html>

<sup>15</sup> <https://www.epo.org/learning/materials/inventors-handbook/novelty/prior-art.html>

It is obvious that where the implementation of the standard requires the use of a standards essential patent (SEP), this will ensure a solid return on investment to the patent owner whilst the FRAND requirement also ensures fair market access conditions.

But also, in cases where meeting the requirements in a standard does not require a specific (patented) technology, patent owners will find their licensing practices facilitated where they can demonstrate that the use of their technology is a solid way to meet the standard requirements.

For more detailed insights and concepts, particularly relevant for the ICT-sector, the readers are referred to further guidance (see for instance the ITU publication “Understanding patents, competition & standardization in an interconnected world”<sup>16</sup> or the EU Joint Research Centre (JRC) study on Licensing Terms of Standard Essential Patents<sup>17</sup>).

## **5.5 Copyright and standards**

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 and/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).

In order to ensure that CEN and CENELEC can claim copyright in all their Publications, all participants in the CEN and/or CENELEC Technical bodies, Working Groups and Workshops that develop Publications assign the copyright in their individual contributions to CEN and CENELEC by signing copyright assignment statements.

The copyright of CEN and CENELEC is thus on the published standardization document. It does not prevent the academic or commercial exploitation of the knowledge that is contributed by the author to the standardization document.

This means that the original copyright holder (author) of a contribution to the European Standardization process is not precluded from continuing to exploit his/her own contribution for its own purposes (e.g. the publication of an article in a specialized journal; a contribution to a conference; the application in internal (company) processes, documentation, design and specifications; the commercial exploitation of the knowledge represented in the contribution).

## **5.6 Standard relevant publications<sup>18</sup>**

A standard often includes a Bibliography where, for information, background material used for the preparation of the standard is listed.

Having his/her scientific publication referenced in a standard’s Bibliography is a direct way through which the researcher will get recognition for his/her work and demonstrate lasting impact.

Whether a Standard’s Bibliography is publicly available on the web will vary between standardization organizations.

Public information on published standards by the ESOs and the international standards organizations ISO and IEC can be found on their websites.<sup>19</sup>

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<sup>16</sup> available from [https://www.itu.int/en/ITU-T/Documents/Manual\\_Patents\\_Final\\_E.pdf](https://www.itu.int/en/ITU-T/Documents/Manual_Patents_Final_E.pdf)

<sup>17</sup> <https://publications.jrc.ec.europa.eu/repository/handle/JRC104068>

<sup>18</sup> Blind, Knut & Fenton, Alex. (2021). Standard-relevant publications: evidence, processes and influencing factors. *Scientometrics*. DOI 10.1007/s11192-021-04210-8; available from [https://www.researchgate.net/publication/357007675\\_Standard-relevant\\_publications\\_evidence\\_processes\\_and\\_influencing\\_factors](https://www.researchgate.net/publication/357007675_Standard-relevant_publications_evidence_processes_and_influencing_factors)

<sup>19</sup> <https://standards.cencenelec.eu/>, <https://www.etsi.org/standards>, <https://www.iso.org/obp/ui>,

### 5.7 Open source

On October 21<sup>st</sup>, 2020, the European Commission approved its new Open Source Software Strategy 2020-2023 as an important step towards achieving the goals of the overarching Digital Strategy of the European Commission and contributing to the Digital Europe programme.<sup>20</sup>

But equally important, Open Source (Open Source Software (OSS) but also other Open Source designs) is becoming increasingly present in industrial applications, worldwide as well as in Europe. It is for instance estimated that companies located in the EU invested around €1 billion in Open Source Software (OSS) in 2018, which resulted in an impact on the European economy of between €65 and €95 billion. In the EU, it is employees of small and very small businesses that are most likely to contribute OSS code (“commits”) whereas in the US commits are mostly made by large ICT companies, which base their relevant business models successfully on the large body of freely available and continuously improving OSS code.<sup>21</sup>

A recent JRC- Science for Policy Report “The Relationship between Open Source Software and Standard Setting”<sup>22</sup> provides a comprehensive analysis of the interaction between standard development organisations (SDOs) and Open Source Software (OSS) communities, including a comprehensive review of academic literature as well as recent publications related to Open Source Software from standard development organisations.”

The European Commission supports flexible and effective interaction between standardization and Open Source Communities to promote and accelerate the uptake of advanced technology developments.<sup>23</sup>

It is therefore not surprising that also CEN and CENELEC are looking into how to facilitate the incorporation of Open Source approaches into CEN-CENELEC’s standardization activities.

More information on the status of the Open Source projects in CEN and CENELEC is available on <https://experts.cen.eu/key-initiatives/open-source-solutions/> or <https://experts.cenelec.eu/key-initiatives/open-source-solutions/>

NOTE When accessing the information on the CEN and CENELEC web-pages, you will note that mention is made there of “designs (software or other)”; indeed, Open Source is not solely a matter of software; there exist also Open Source Hardware (OSH). The definition given by the Open Source Hardware association reads as follows: “Open source hardware is hardware whose design is made publicly available so that anyone can study, modify, distribute, make, and sell the design or hardware based on that design”.<sup>24</sup> Also to be noted in an OSH context is DIN SPEC 3105 “Open Source Hardware”.

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<sup>20</sup> See <https://digital-strategy.ec.europa.eu/en/activities/digital-programme>

<sup>21</sup> Blind, K.; Böhm, M., Grzegorzewska, P., Katz, A., Muto, S., Pätsch, S., Schubert, T. (2021). The impact of Open Source Software and Hardware on technological independence, competitiveness and innovation in the EU economy, Final Study Report. Brussels. DOI 10.2759/430161

<sup>22</sup> Blind, K. and Böhm, M., The Relationship Between Open Source Software and Standard Setting, Thumm, N. editor(s), EUR 29867 EN, Publications Office of the European Union, Luxembourg, 2019, ISBN 978-92-76-11592-2, doi:10.2760/937637, JRC117836.

<sup>23</sup> <https://ec.europa.eu/docsroom/documents/26583> Commission Communication on Setting out the EU approach to Standard Essential patents.

<sup>24</sup> <https://www.oshwa.org/definition/>

## 5.8 Standardization documents vs open access to publications

It is well known that the European Commission supports open access, specifically in its funding programmes. More specifically, open access to scientific information in research and innovation refers to 2 main categories <sup>25</sup>:

- peer-reviewed scientific publications (primarily research articles published in academic journals);
- scientific research data: data underlying publications and/or other data (such as curated but unpublished datasets or raw data).

What does this mean for the contribution by a European funded project to standardization?

As already stated in subclause 5.5, the standards are copyrighted collective work made by a set of independent, original inputs from experts and are the copyright of CEN and/or CENELEC. The standards that are published in the context of a European funded project are therefore not the subject of the European Commission's open access requirement. This does not preclude the European funded project from publishing the scientific publications which were contributed to the standardization activity under an open access policy.

It is in this context also important to draw attention to the specific modalities of accessing CEN and/or CENELEC Workshop Agreements (CWAs), a publication already introduced in subclause 4.4. CWAs may be made available for view and (pre-paid) download from the CEN-CENELEC website as well as from the points of sale of the CEN and/or CENELEC Members, without the need for a payment by the party viewing or downloading the CWA.

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<sup>25</sup> [https://ec.europa.eu/info/research-and-innovation/strategy/strategy-2020-2024/our-digital-future/open-science/open-access\\_en](https://ec.europa.eu/info/research-and-innovation/strategy/strategy-2020-2024/our-digital-future/open-science/open-access_en)