INN PRESSME
Open Innovation Test Bed

D9.5 Guide for the use of standardisation by Test Bed users

02.05.2024

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grand agreement N°952972

Technical References

Project Acronym	INN-PRESSME
Project Title	open INNovation ecosystem for sustainable Plant-based nano-enabled biomateRials deploymEnt for packaging, tranSport and conSuMEr goods
Project Coordinator	Ulla Forsström VTT Technical Research Centre of Finland Ltd
Project Duration	01.01.2021 – 31.01.2025 (49 months)

Deliverable No.	9.5
Dissemination level [1]	PU
Work Package	9 Clustering, standardisation, regulation and training
Task	Task 9.3: Standardisation activities
Lead beneficiary	UNE
Contributing beneficiary(ies)	VTT, CIDETEC, IPC, CEA, Fraunhofer, AITIIP, IWNiRZ, AIMPLAS, KCL, Gnanomat S.L., Ansys, STAM SRL, INCOTEC, IRES, G!E, WSVK, MCC, MAIER, Albea, CRF, PODOACTIVA, F1 PAPERS
Due date of deliverable	30-06-2024
Actual submission date	02-05-2024

[1] PU = Public
PP = Restricted to other programme participants (including the Commission Services)
RE = Restricted to a group specified by the consortium (including the Commission Services)
CO = Confidential, only for members of the consortium (including the Commission Services)

Document history

V	Date	Beneficiary	Author
V0.1	2024-01-21	UNE	Miguel Angel Aranda Gomez
V0.2	2024-03-21	IPC	Mathieu Lions
V0.3	2024-04-23	UNE	Miguel Angel Aranda Gomez
V1	2024-04-26	IPC	Mathieu Lions
V1.1	2024-05-02	VTT	Ilona Leppänen, Ulla Forsström

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Summary

In the recent EU Strategy on Standardization[1] it is specifically stated that EU standardisation leadership depends on the innovation capacity of its industrial ecosystems. EU research, development and innovation (R&D&I) projects allow new technologies to enter into a more mature phase, favouring their applicability on a larger scale and promoting their market uptake. Therefore, Europe's R&I base, including via Horizon Europe and its predecessor programmes, needs to be exploited more in identifying and transferring relevant research for new standards.

The use of standardization as a track to valorise R&I results is emphasized in the 'EU Policy on Knowledge Valorisation' (Council Recommendation (EU) 2022/2415) and the 'Code of Practice on Standardisation in the ERA' (Commission Recommendation (EU) 2023/498).

This policy support to the need to connect the R&I activities and standardization activities is the basis for the development of this guide to raise awareness on the role of standards into market access and the sustainability of the European Internal Market.

Disclaimer

[1] COM(2022) 31 final COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS An EU Strategy on Standardisation Setting global standards in support of a resilient, green and digital EU single market DocsRoom - European Commission (europa.eu)

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N°952972

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Terminology and Acronyms

Table 1. Terminology and acronyms

CEN	*European Committee for Standardisation*
CENELEC	*European Committee for Electrotechnical Standardisation*
CWA	*CEN Workshop Agreement*
DIN	*German Institute for Standardization; German standard*
EFTA	*European Free Trade Association*
EN	*European Standard*
ESO	*European Standardisation Organisation*
ETSI	*European Telecommunications Standards Institute*
EU	*European Union*
FE	*Finite Element*
IEC	*International Electrotechnical Commission*
ISO	*International Organization for Standardization; International Standard*
ITU	*International Telecommunication Union*
NSB	*National Standardisation Body*
SC	*Subcommittee*
TC	*Technical Committee*
TR	*Technical Report*
TS	*Technical Specification*
UNE	*Spanish Association for Standardization*
WG	*Working Group*
WS	*Workshop*

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1 Content of Deliverable

This document is structured according to the following clauses:

1) Introduction to the benefits of standards.
2) Explanation of the different types of standardization deliverables.
3) Practical information on the standardisation Technical Bodies and the standardisation system.
4) Relation between standardization and legislation.
5) Key information on how to take advantage of the work performed by the standardisation system, providing clear strategies.
6) Practical information on how to access to the relevant information.
7) How to incorporate standardization activities to a R&I project.
8) Conclusions.

2 Why standards?

There exist a number of reasons to use standards in your R&I development, and to integrate standards and standardisation activities in your innovative solutions. Considering standardisation in your ground-breaking work, you will:

- have access to documents that show the state of the art, based in consensus on the fields relevant to your development,
- share knowledge and benefits from existing standards, and be able to contribute to existing developments,
- enlarge your network of directly relevant stakeholders, both at national and at international level, by participating in standardisation groups,
- increase the impact of your development and improve the market access of your innovations by using existing standards and developing new ones,
- gain recognition of your work, as standards support its dissemination including bibliographic references to the relevant scientific publications and naming the relevant R&I projects when they are the basis of the standardisation document.

Standards are high-level technical documents, developed by all interested parties, market-driven and usually promote comparability, compatibility and interoperability on existing or future products and services and solutions. Therefore, the first step to get into the standardisation universe should be to understand which standards are relevant and applicable to your work. There can happen that emerging technologies usually covered in the R&I projects are so innovative that there is no existing standards in the specific field. Standardisation organizations are highly interested on covering new areas of work bridging new solutions to markets. This new developments can imply drafting of new documents, or revision of existing standards.

Standards build trust. The standards drafting, approval and revision processes are based on the consensus of all the relevant stakeholders, under clear rules of openness and transparency. This co-creation process assures that they comply with the agreed expectations and requirements of the market and of our society, generating the confidence of the users.

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Standards are a market intelligence tool for industry, a quality tool for societal stakeholders and a tool for the deployment of regulations for public authorities. Existing studies present standards as a catalyser of trade and they are present in a significative percentage of the world commerce exchanges and, according to the Public Procurement Directive[2], can be referenced as technical specifications in public procurements procedures.

Standards also play a key role in the progress towards a sustainable economy in Europe, providing support to the deployment of different regulations connected to the European Green Deal (eco-design, renewable energies, circular economy, energy efficiency, digital product passport, EU taxonomy, etc.). Moreover, standards support the Sustainable Development Goals of the UN 2030 Agenda serving as basis to implement and measure the sustainable use of resources and energy strengthening the protection of consumers, workers and the environment.

3 Standardisation and standards

3.1 Focus on European standardisation

INN-PRESSME aims at developing and implementing a sustainable OITB to support European companies to scale up their nano-enabled biomaterials and processes from TRL 4-5 to 7. It will focus on nano-cellulose, bioplastics and natural fibres, combined with nanotechnology approaches to tailor bio-based materials with properties and functionalities (barrier, antibacterial properties, improved corrosion or chemical resistance, etc.) that will equal or outperform their fossil counterparts at competitive prices.

INN-PRESSME gathers 16 pilot lines, organized in routes and processes for feedstock conversion (PLA, PHA, fibre-based, cellulose-based), formulation and transformation and processing of bio-based material to high added-value products and is under European funding. Therefore, given the scope and the geographical specificities, this clause will mainly look relation with the official European Standards Organizations recognized by Regulation 1025/2012 on European standardization[3], CEN (European Committee for Standardisation) and CENELEC (European Committee for Electrotechnical Standardisation), and will consider the different CEN and CENELEC standardisation documents and technical bodies[4]. CEN and CENELEC work together with ETSI (European Telecommunications Standards Institute), providing solutions in Europe but also maintain strong relations with international organizations through cooperation agreements with ISO (International Organisation for Standardisation) and IEC (International Electrotechnical Commission). The objectives of these agreements are to develop standards at international level and to adopt in parallel at European level. Vienna Agreement between CEN and ISO and the Frankfurt Agreement between CENELEC and IEC present results showing a success collaboration with almost 40% of CEN standards equivalent to ISO standards, and near 78% of CENELEC standards equivalent to IEC ones.

Finally, 20% of the European standards catalogue of CEN and CENELEC support European legislation.

[2] Directive 2014/24/EU of the European Parliament and of the Council of 26 February 2014 on public procurement and repealing Directive 2004/18/EC, see https://eur-lex.europa.eu/legal-content/es/TXT/?uri=CELEX:32014L0024
[3] Regulation (EU) No 1025/2012 of the European Parliament and of the Council of 25 October 2012 on European standardisation, Regulation - 1025/2012 - EN - EUR-Lex (europa.eu)
[4] The main source for this clause is CEN-CENELEC.

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3.2 Who produces standards

Standards are produced by Standards Organisations, and their processes follow the six principles presented by the World Trade Organization in the Technical Barriers to Trade Agreement for the development of international standards[5]; ensuring transparency, openness, impartiality and consensus, effectiveness and relevance, coherence, and to address the concerns of developing countries. These principles are observed by the European organizations not only due to their agreement with their international counterparts but also because they are supplemented in the Regulation 1025/2012.

The formal international standardisation organisations are:

ISO, International Organisation for Standardisation, is an independent, non-governmental international organization with a membership of 170 national standards bodies.

IEC, International Electrotechnical Commission, is a global, not-for-profit membership organization that brings together more than 170 countries and coordinates the work of 20 000 experts globally whose work underpins quality infrastructure and international trade in electrical and electronic goods.

ITU, the International Telecommunication Union is the United Nations specialized agency for information and communication technologies – ICTs.

At European level, there are three European Standardization Organizations (ESOs) officially recognized by the European Union and by the European Free Trade Association (EFTA) as being responsible for developing and defining voluntary standards at European level. The European Union Regulation 1025/2012 and its amendment 2480/2023[6] settles the legal framework for standardization.

The three ESOs are:

CEN, the European Committee for Standardization, is an association that brings together the National Standardization Bodies of 34 European countries.
CEN provides a platform for the development of European Standards and other technical documents in relation to various kinds of products, materials, services and processes.
CEN supports standardization activities in relation to a wide range of fields and sectors including: air and space, chemicals, construction, consumer products, defence and security, energy, the environment, food and feed, health and safety, healthcare, ICT, machinery, materials, pressure equipment, services, smart living, transport and packaging.

[5] WTO | Principles for the Development of International Standards, Guides and Recommendations
[6] Regulation (EU) 2022/2480 of the European Parliament and of ... (europa.eu)

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CENELEC, the European Committee for Electrotechnical Standardization, is an association that brings together the National Electrotechnical Committees of 34 European countries. CENELEC prepares voluntary standards in the electrotechnical field, which help facilitate trade between countries, create new markets, cut compliance costs and support the development of a Single European Market. CENELEC supports standardization activities in relation to a wide range of fields and sectors including: Electromagnetic compatibility, Accumulators, primary cells and primary batteries, Insulated wire and cable, Electrical equipment and apparatus, Electronic, electromechanical and electrotechnical supplies, Electric motors and transformers, Lighting equipment and electric lamps, Low Voltage electrical installations material, Electric vehicles railways, smart grid, smart metering, solar (photovoltaic) electricity systems, etc.

ETSI, European Telecommunications Standards Institute, provides members with an open, inclusive and collaborative environment. This environment supports the timely development, ratification and testing of globally applicable standards for ICT-enabled systems, applications and services. They are at the forefront of emerging technologies across all sectors of industry and society that make use of ICT.

The standardisation system in CEN and CENELEC is based on the national delegation principle by which, the National Standardization Bodies (NSBs) convey the consensus agreed position in their countries to the European developments. A National Standardization Body is the main focal point of access to the concerted system, which comprises European and international standardization for all national stakeholders. ETSI, have different participation principles such as direct participation.

You can check the list of NSBs members of CEN here, and the list of NSBs members of CENELEC here. The list of members of ETSI is available here.

Standards Developing Organisations SDOs (e.g., IEEE, W3C, ASTM so many others), are other organisations which develop industry or sector-based documents, or industry specific standards, under different production processes and internal rules. SDOs have sometimes collaborations with CEN, CENELEC, ETSI, ISO, IEC and ITU and many SDO standards have been basis for international standards. In a complex environment, all parties look for achieving worldwide solutions for their interested parties.

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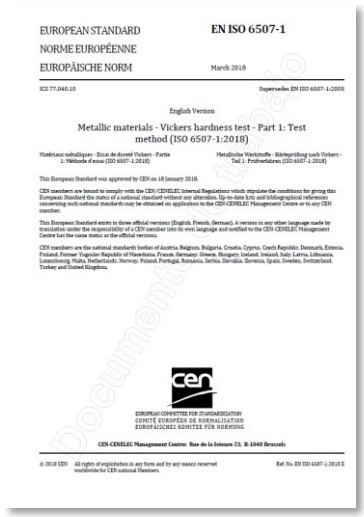
3.3 Standardisation documents

3.3.1 Standard (in case of European standard, EN)


EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 6507-1

March 2018

ICS 77.040.10

English Version

Metallic materials - Vickers hardness test - Part 1: Test method (ISO 6507-1:2018)

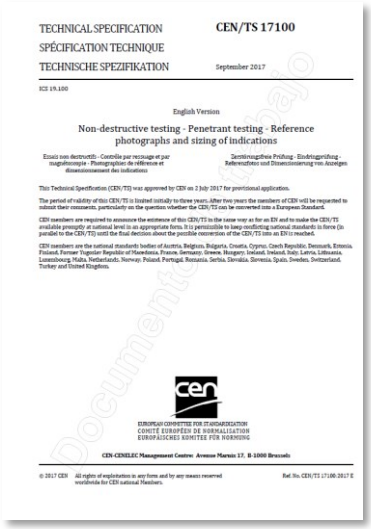
A standard in Europe is a technical specification, adopted by a recognised standardisation body, for repeated or continuous application, with which compliance is not compulsory adopted by a European standardisation organisation. It can comprise an agreed definition or specification of a unit, method, product, process or service. Standards provide people and organizations with a basis for mutual understanding and are used as tools to facilitate communication, measurement, commerce and manufacturing.

The initiative to develop a standard can be triggered by interested stakeholders who consider that a particular standard could respond to some specific needs[7].
At European level, it is important to note that only standards developed by the three ESOs (CEN, CENELEC and ETSI) are recognized as European Standards (ENs).

The development and approval process of an EN follows strict rules that made the whole system trustable and traceable. The consultation process is open to all the National Standardization Bodies (NSBs) which through national consultations to experts and interested parties can contribute to the final document and express their support or concerns to the different development stages.

After the publication of a European Standard, each national standards body or committee is obliged to adopt the published standard and withdraw any national standard which conflicts with the new European Standard. Through this obligation, it is assured the Single Market and the strengthening the competitiveness of European companies.
In general, the application of standards, unlike legal texts, is voluntary. Standards can however become part of legislation, when their wording or content is taken up by legal texts.

3.3.2 Technical Specification (TS)


TECHNICAL SPECIFICATION
SPÉCIFICATION TECHNIQUE
TECHNISCHE SPEZIFIKATION

CEN/TS 17100

September 2017

ICS 19.100

English Version

Non-destructive testing - Penetrant testing - Reference photographs and sizing of indications

A Technical Specification (TS) is a standardization deliverable for which there is the future possibility of agreement on a European Standard, but for which at present:

- the required support for approval as a European Standard cannot be obtained,
- consensus has not been achieved,
- the subject matter is still under technical development, and counts with not enough maturity or
- there is another reason precluding immediate publication as a European Standard.

A Technical Specification is not permitted to conflict with an EN.
Technical Specifications are established with a view to serving, for instance, the purpose of publishing aspects of a subject

[7] Source: CEN-CENELEC.

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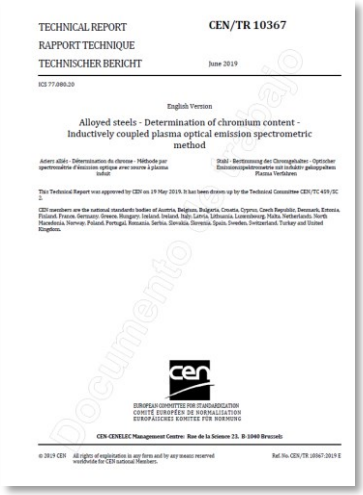
which may support the development and progress of the European market, giving guidance to the market on or by specifications and related test methods or providing specifications in experimental circumstances and/or evolving technologies.
Technical Specifications may compete with each other and need to be revised after three years of existence to check the possibility to become European standards or be withdrawn.

3.3.3 Technical Report (TR)


TECHNICAL REPORT
RAPPORT TECHNIQUE
TECHNISCHER BERICHT

CEN/TR 10367

June 2019

ICS 77.080.20

English Version

Alloyed steels - Determination of chromium content - Inductively coupled plasma optical emission spectrometric method

A Technical Report is an informative document that gives information on the technical content of pre or standardization work.
A TR may include, for example, data obtained from a survey, data on work in other organizations, or data on the "state-of-the-art" in relation to a particular subject.

3.3.4 CEN/CENELEC Workshop Agreement (CWA)


CEN
WORKSHOP
AGREEMENT

CWA 17437

July 2019

ICS 91.060.10

English version

Innovative and adaptable envelopes over existing façades in building refurbishment - Design, economic assessment, logistics and installation guidelines

A CEN/CENELEC Workshop Agreement (CWA) is a document developed by a Workshop (WS) that commonly is composed by a Horizon Europe project partner. It reflects an agreement between identified individuals and organizations responsible for its contents. A CWA normally includes guidelines, recommendations, best practices, etc. However, a CWA can also state requirements, define methods, etc.
CWA are the fastest documents produced within CEN-CENELEC. **This is a key factor to consider, as most the times it is possible to produce them within the timeframe of the R&I project.**

The drafting of a CWA is a good tool to scale-up the findings of a R&I project and can be converted in an EN standard in the future following the relevant procedures.
To safeguard the overall coherence of the deliverables adopted by the CEN and/or CENELEC Technical Bodies and the credibility of European standardization in the market a CWA shall not conflict with European Standards. A CWA can compete with another CWA. A CWA is intended to address security, a risk analysis shall be carried out.

A CWA is not designed to support European legislative requirements (e.g. the New Approach).The National Standardisation Bodies (NSB) Members of CEN and CENELEC have similar documents at National level, e.g. the Especificación UNE (UNE, Spain) or the DIN SPEC (DIN, Germany). Those can also be tools to consider when planning the standardisation strategy of a R&I project.

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3.4 Where are standards produced

3.4.1 Introduction

Standards are elaborated through a process of sharing knowledge and building consensus among technical experts from interested parties and other stakeholders - including big and small businesses, consumers, researchers, societal and environmental groups, authorities, etc. from different countries.
The participation of the experts can be in a technical body which can be permanent (Technical Committee) or temporary (CEN-CENELEC Workshops). These technical bodies are integrated in the structure of the recognized Standardization Organizations at three coordinated levels: national, European and international. These organizations provide the framework, the recognition, and the common playing rules for the elaboration of reliable standards in all sectors.
The members of the European and International organizations are the National Standardization Bodies and Committees, present in every country. They will help you to find the right path to standards, engage in standardization processes and integrate all of this in your R&I projects and proposals.

3.4.2 Technical Committee (TC)

A Technical Committee is a technical decision-making body with a precise title, scope and work programme. A TC essentially manages the preparation of standardisation deliverables in accordance with an agreed business plan (the work programme corresponding the TC strategy).
Technical Committees can be subdivided into Subcommittees (SC) and Working Groups (WG).
Each European TC or SC have a Chairperson and a Secretary. The Secretariat is held by a National Standardisation Body (NSB) and the secretary is the person with a broader perspective of the TC work.
Working Groups, groups in charge of the development of deliverables are led by a Convenor and can have a secretary.
TCs, SCs and WGs, at CEN, CENELEC, ISO and IEC level are based on National delegation.
TCs produce Standards, Technical Specifications and Technical Reports.
The main data on the Technical Bodies of CEN, CENELEC, ETSI, ISO and IEC are publicly available. Its main relevant information is given in the webpages of the Standardisation Bodies, including:

- Title
- Scope
- Structure
- Secretary
- Chairperson/Convenor
- Business Plan
- Contact data

You can check the whole list of the Technical bodies of CEN, CENELEC, ETSI, ISO, IEC and ITU at the following links:

- For CEN Technical Bodies
- For CENELEC Technical Bodies
- For ETSI Technical Bodies
- For ISO Technical Bodies

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- For IEC Technical Bodies
- For ITU Technical Bodies

3.4.3 CEN/CENELEC Workshop (WS)

CEN and/or CENELEC Workshop is considered as a temporary group with a short-term task specified in its project plan. If the proposed scope calls for a long-term activity, the possibility to propose a Technical Committee should be explored. The operation of the CEN and/or CENELEC Workshops themselves is entirely separate from Technical Committees responsible for the development of European Standards, although this shall not be interpreted as meaning there cannot be an interface between CEN and/or CENELEC Workshops and Technical Committees. The outcome of workshop is consensus document called CEN/CENELEC Workshop agreement (CWA).

3.4.4 European policies, legislation and standards

Standards can be closely linked with legislation all over the world, but there exists a special compromise in Europe. The first pillar is the existence of the Regulation 1025/2012 on European Standardisation which underline the framework of the standardization activities in Europe, the formal recognition of CEN, CENELEC and ETSI as European Standards Organizations and the base of the mutual cooperation of the European Commission and the Standards Community. The standards have served for many years as a tool for the deployment of European policies. There are many reasons why this public-private cooperation has been successful. The first one is because standards are usually the simplest and fastest tool to fulfil most of the requirements from European Directives under the New Approach; those standards are called “Harmonized standards” and fulfilling the requirements of the standards guarantees the presumption of conformity with the essential requirements of the related European Directives. The second one is that all the relevant stakeholders participate at European level on the development of the standards. The industry as a major contributor, laboratories, users, regulators, universities, consumer representatives, environmental organizations, and many others seek and reach solutions in documents which count with the highest level of consensus and support. This key element in the European standards suppose a win-win solution whenever standards are used, also when they support European legislations.

Another way to link standards and the legislative framework is by supporting the public policies and technical development in certain areas: usually this is done by a Standardization Request (SR), formerly known as Mandate. A Standardisation Request is a demand from the European Commission to the European standardisation organisations (ESOs), such as CEN or CENELEC, to draw up and adopt European standards in support of European policies and legislation, such as Directives and Regulations. The first step to define those areas for which standardization requests will be developed every year starts with the development and publication of the Annual Union Work Programme (AUWP) where the EC identifies legislations for which SRs will be developed. The AUWP 2021 is available in this link and the draft AUWP for 2022, here. In this draft, the following piece of legislation were mentioned as possible area for which and SR will be prepared. This can be of interest of INN-PRESSME project:

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Table 2. Incoming standardization requests in 2022 related to INN-PRESSME.

Sorted plastics waste and recycled plastics	Action of Annex I to the European Strategy for Plastics in a Circular Economy COM(2018)28 Actions to boost recycled content: −development of quality standards for sorted plastics waste and recycled plastics in cooperation with the European Standardisation Committee	Develop new European standards or revise existing European standards supporting the quality of the plastics recycling value chain. These standards should set requirements on the quality of recycled plastics and their suitability for the intended uses.	Offer recycled plastics which meet the needs of product brands and manufacturers for a reliable, high-volume supply of materials with constant quality specifications.

Draft standardization requests are drawn up by the Commission services through a process of consultation with a wide group of interested parties (Member States, social partners, consumers, SMEs, relevant industry associations, European and National Standardization Bodies, etc.). The references of harmonised standards must be published in the Official Journal of the European Union.

A database of Standardization Requests may be found in the European Commission related webpage.

4 Benefits of standards for innovation projects and for innovative business

4.1 How can standardization help your innovation

Through the process of standardisation, ground-breaking ideas lead to new standards that others can build upon. This helps innovators growth, from the first developments to market strategy. This applies to all domains: technology, science, regulations, testing methods, product development, etc.
Considering standardisation in your innovation strategy will power up your project regarding the current state of the art, will provide feedback to help the standardisation system to review or update the existing standards or will co-author new standards to support your innovations.
If you need to have a **starting point**, standards are state of the art for industrial and societal practices.
If you need to ensure methodological **robustness**, improve the **quality** of the innovation project's activities and outcomes or ensure broad **applicability** of results, standardisation can help you to ensure compatibility of your results with what is already in the market and to comply with recognized test methods, health and safety requirements.
If you need to increase the **impact** of the project, assure long term **dissemination** of the results or to ensure market **acceptance** of the project results, standardisation gives you access to discuss and promote your project outcomes with stakeholders and potential customers. Standardisation can also contribute to the dissemination of your results to a

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relevant range of European- or world-wide stakeholders, and to ensure that your project results are known and used by the market well beyond the duration of your project[8].

4.2 Different standardization tools and strategies to support your R&I project

4.2.1 Screening of existing standards

The screening of existing standards consists on the identification of existing standards, which are relevant for the project. It can consider standards from different national, European and international standardization organizations and from SDOs (Standards Developing Organisations), also collecting information on ongoing standardization initiatives and relevant Technical Committees.
The main benefits of the screening of new standards are having an overview of the state of the art and existing practices, especially in industrial environment, that allows to apply existing knowledge to the project activities whenever it is possible, saving efforts and granting compatibility. It also helps to identify standardization gaps to be revealed, standardization interlocutors to be contacted and other initial information for further standardization activities in projects.

4.2.2 Contribution to new standards

Standards are common playing rules for industry, societal actors and public administrations. The integration of the results of R&I activities in new standards is a way to enhance their impact beyond the consortium, to gain visibility and to increase their chances of successful exploitation.
R&I projects have the opportunity of influencing ongoing standardisation. This way, you take the opportunity of ongoing standardization works relevant for your project, to integrate some of the results in them, applying for new standards or for the modification of existing ones.
By influencing the ongoing standardization on your field, R&I projects gain visibility, applicability and long-term impact of the project results. It also helps to take advantage of the momentum of existing works, instead of starting new ones.
This approach is relevant when an existing Technical Committee is developing new standardization works related to the project results, and its timeframe is compatible with the one of the R&I project. It is a great opportunity to extend your network and to identify and overcome potential technical barriers or gaps.
There are three main ways for R&I projects to contribute to the ongoing standardisation developments:

a) The basic one, and cornerstone of the further ones, is **contacting** the relevant Technical Committee, providing informed suggestions, recommendations or proposals. See the links to the contact data of the CEN, CENELEC, ETSI, ISO, IEC and ITU standardisation Technical Bodies in paragraph 6 of this document.
b) A more committed stage would be **joining** the Technical Committee by participating as an expert through your National Standardization Body (NSB). Be aware that the experts participating this way will not represent the R&I project, but the NSB. NSB have full voting rights; however, the National position has to be agreed beforehand by National consensus. The payment of a fee is required to be able to liaise with CEN TBs.
c) Asking for a **Project Liaison** between the R&I project and the Technical Committee. Basically, the status of a 'Liaison Organization' is offered to those European organizations, including Fora and Consortia, representing interest groups that are

[8] Find more information at www.standardsplusinnovation.eu

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committed to provide input to the work of one or more CEN or CENELEC Technical Bodies. It allows the representation of a collaborative European R&I project as an entity, allowing more visibility. In this case, the R&I representatives do not need to agree their position with any NSB in other words, the R&I project can directly participate in the TB and not through the NSB; nevertheless, liaison representatives have a voice and can submit comments and contributions but do not have voting rights.

4.2.3 Proposal and elaboration of new standards

R&I projects can directly engage standardization organizations to lead the elaboration of new standards which support their project results. It has to be considered that standardization depends on the consensus with stakeholders external to the project. This might cause amendments to the initial draft proposed, having different results than expected, or even no results.
However, the benefit of leading standardisation works relevant to the project exceed by far its risks, as it increases the long-term impact of the project, sets basis for future innovation and takes advantage of the fastest-track options available in the standardization system.
This option is especially suitable when no ongoing standardization works exist, or when extended impact is required, especially where different sectors and stakeholders can benefit from it.

There are two main paths to elaborate new standards:

a) The recommended path for European R&I projects is to propose CEN and CENELEC the creation of a CEN-CENELEC Workshop (WS) to **develop a CWA** (CEN-CENELEC Workshop Agreement, see subclause 3.3.4). This is the fastest kind of standard as it is elaborated in an *ad hoc* group, especially well-suited for results of R&I, that can be the first step for a future EN or ISO standard.
b) If the R&I project joins an existing standardisation Technical Committee (see subclause 4.2.2), it can propose the Technical Committee the elaboration of a Technical **Specification** (TS, see subclause 3.3.2), or a Technical **Report** (TR, see subclause 3.3.3).

5 How to identify relevant standards and standardisation works

There are two main ways of identifying relevant standards and standardisation works.

a) Search by standardisation Technical Body

All standardisation organisations have information on their Technical Bodies on their websites. You can check key information of the main Technical Bodies relevant to the activity of INN-PRESSME in the following table:

Table 3. Identified technical bodies relevant for INN-PRESSME

Topic	Organization	Technical committee or subcommittee
Plastics	CEN	CEN/TC 249 Plastics
		CEN/TC 249/WG 9 Bio-based and biodegradable plastics

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		CEN/TC 249/WG 11 Plastics recycling
		CEN/TC 249/WG 24 Environmental aspects
	ISO	ISO/TC 61 Plastics
		ISO/TC 61/SC 2 Mechanical behavior
		ISO/TC 61/SC 6 Ageing, chemical and environmental resistance
		ISO/TC 61/SC 6/WG 7 Basic standards
		ISO/TC 61/SC 11 Products
		ISO/TC 61/SC 14 Environmental aspects
		ISO/TC 61/ SC14/WG2, Biodegradability
		ISO/TC 61/ SC14/WG3 Biobased plastics
		ISO/TC 61/ SC14/WG4 Characterization of plastics leaked into the environment (including microplastics) and quality control criteria of respective methods
		ISO/TC 61/ SC14/WG5 Mechanical and chemical recycling
	ASTM	ASTM D 20.96 Environmentally Degradable Plastics and Biobased Products
Rubber	ISO	ISO/TC 45/SC 4 Rubber and rubber products. Products (other than hoses)"
Packaging	CEN	CEN/TC 261 Packaging
		CEN/TC 261/SC 4 Packaging and the environment
		CEN/TC 261/SC 4/WG 1 Terminology, symbols and criteria for life cycle assessment of packaging
		CEN/TC 261/SC 4/WG 2 Degradability and organic recovery of packaging and packaging materials
	CEN	CEN/TC 261/SC 4/WG 3 Material recovery
		CEN/TC 261/SC 4/WG 4 Energy recovery
		CEN/TC 261/SC 4/WG 6 Prevention
		CEN/TC 261/SC 4/WG 7 Reuse
		CEN/TC 261/SC 4/WG 8 Heavy metals and other dangerous substances
	ISO	ISO/TC 122 Packaging
		ISO/TC 122/SC 4 Packaging and the environment
Biobased products	CEN	CEN/TC 411 Biobased products
Environment	ISO	ISO/TC 207 Environmental management
		ISO/TC 207/SC 1 Environmental management systems
		ISO/TC 207/SC 3 Environmental labelling
		ISO/TC 207/SC 4 Environmental performance evaluation
		ISO/TC 207/SC 5 Life cycle assessment
		ISO/TC 207/SC 7 Greenhouse gas management and related activities
NOTE		
Nanothechnology	CEN	CEN/TC 352 Nanotechnologies
		CEN/TC 352/WG 2 Commercial and other stakeholder aspects
		CEN/TC 352/WG 3 Health, safety and environmental aspects
	ISO	ISO/TC 229 Nanotechnologies
		ISO/TC229/JWG2 Measurement and characterization

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		ISO/TC 229/WG 3 Health, Safety and Environmental Aspects of Nanotechnologies
		ISO/TC 229/WG 4 Material specifications
		ISO/TC 229/WG 5 Products and Applications
	IEC	IEC TC 113 Nanotechnology for electrotechnical products and systems
Paper	CEN	CEN/TC 172 Pulp, Paper and Board
		CEN/TC 172/WG 2 Paper and board for recycling
		CEN/TC172/WG 3 Analytical methods for the assessment of paper and board in contact with foodstuffs
		CEN/WS 096 Mapping of future needs of standardization in the paper and board sector
	ISO	ISO/TC 6 Paper, board and pulps
		ISO/TC6/TG1 Cellulosic nanomaterials.
		ISO/TC 6/ WG 3 Optical properties
		ISO/TC 6/ WG 11 Estimation of uncertainty
		ISO/TC 6/WG 13 Paper, board, pulps and cellulosic nanomaterials dry matter content
		ISO/TC 6/WG 15 Pulp methods
		ISO/TC 6/ SC 2 Test methods and quality specifications for paper and board
		ISO/TC 6/ SC 2/WG 41 Contact angle
		ISO/TC 6/ SC 2/WG 45 Corrugated fibreboard test methods
		ISO/TC 6/ SC 2/WG 47 Water absorptiveness of paper and board
	SCAN	SCAN standards
	CEPI	CEPI Harmonised European laboratory test method: CEPI recyclability laboratory test method
Additive manufacturing	ISO	ISO/TC 261 Additive manufacturing
Bio-based products	CEN	CEN/TC 411 Bio-based products
Batteries	IEC	IEC TC 21 Secondary cells and batteries
	CENELEC	CENELEC/TC 21X Secondary cells and batteries
Road vehicles	ISO	ISO TC 22 Road vehicles
		ISO/TC 22/SC 36 Safety and impact testing
Ultracapacitors	IEC	IEC/TC 40 Capacitors and resistors for electronic equipment
Textiles	CEN	CEN/TC 248 - Textiles and textile products
	ISO	ISO/TC 38 Textiles
		ISO/TC 38/SC 23 Fibres and yarns

As a practical example, let´s look for the activity of CEN/TC 172 Pulp, Paper and Board Information can be accessed at the CENELEC, ETSI, ISO, IEC and ITU websites in a very similar way.

In this case, we will find the information given in CEN website on CEN Technical Bodies, see Figure 1. It provides 5 main fields of information: Committee, title, published standards, work programme and business plan. You can look for the relevant Technical Body in the list or use the search functionality. It also allows to download an excel file with the relevant information.

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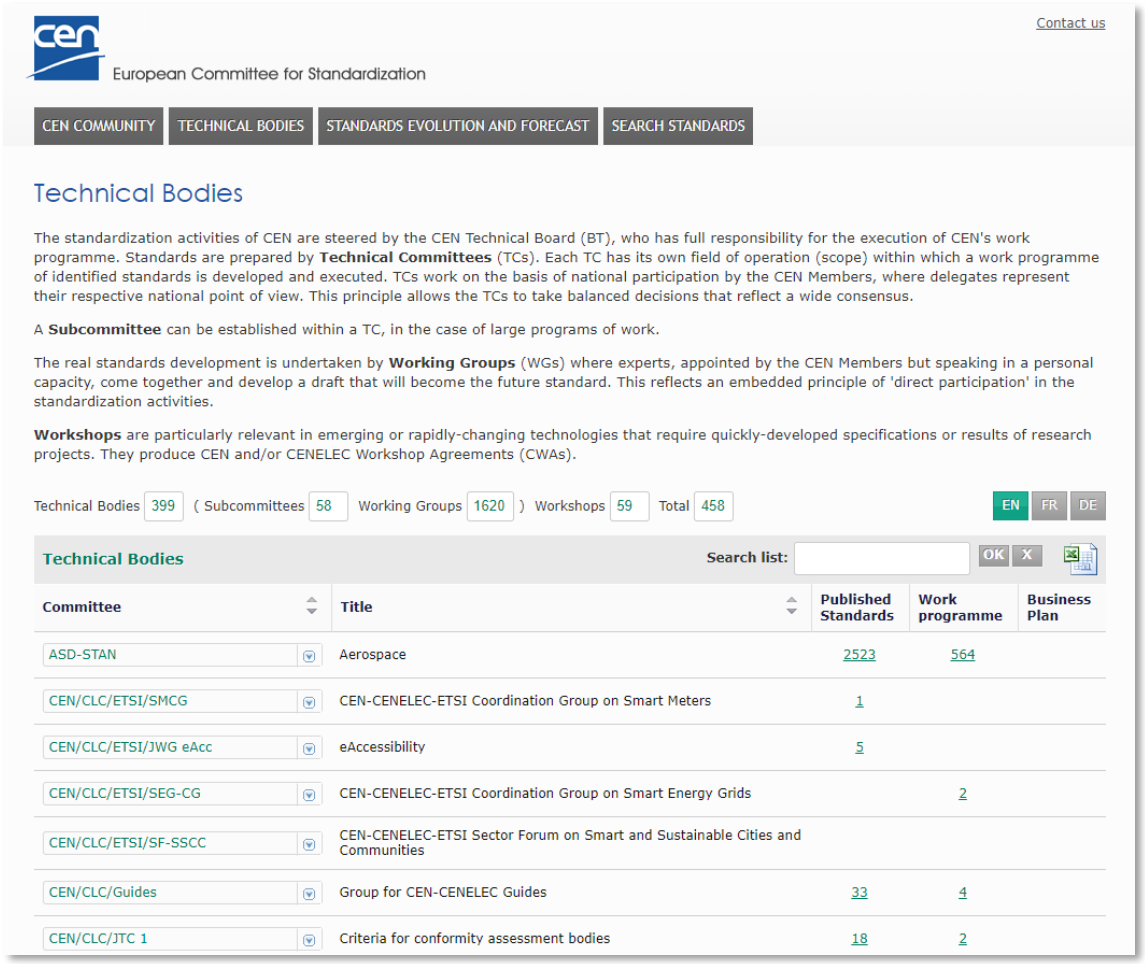

Contact us

European Committee for Standardization

CEN COMMUNITY | TECHNICAL BODIES | STANDARDS EVOLUTION AND FORECAST | SEARCH STANDARDS

Technical Bodies

The standardization activities of CEN are steered by the CEN Technical Board (BT), who has full responsibility for the execution of CEN's work programme. Standards are prepared by **Technical Committees** (TCs). Each TC has its own field of operation (scope) within which a work programme of identified standards is developed and executed. TCs work on the basis of national participation by the CEN Members, where delegates represent their respective national point of view. This principle allows the TCs to take balanced decisions that reflect a wide consensus.

A **Subcommittee** can be established within a TC, in the case of large programs of work.

The real standards development is undertaken by **Working Groups** (WGs) where experts, appointed by the CEN Members but speaking in a personal capacity, come together and develop a draft that will become the future standard. This reflects an embedded principle of 'direct participation' in the standardization activities.

Workshops are particularly relevant in emerging or rapidly-changing technologies that require quickly-developed specifications or results of research projects. They produce CEN and/or CENELEC Workshop Agreements (CWAs).

Technical Bodies 399 (Subcommittees 58 Working Groups 1620) Workshops 59 Total 458

EN FR DE

Technical Bodies Search list: OK X

Committee	Title	Published Standards	Work programme	Business Plan
ASD-STAN	Aerospace	2523	564	
CEN/CLC/ETSI/SMCG	CEN-CENELEC-ETSI Coordination Group on Smart Meters	1		
CEN/CLC/ETSI/JWG eAcc	eAccessibility	5		
CEN/CLC/ETSI/SEG-CG	CEN-CENELEC-ETSI Coordination Group on Smart Energy Grids		2	
CEN/CLC/ETSI/SF-SSCC	CEN-CENELEC-ETSI Sector Forum on Smart and Sustainable Cities and Communities			
CEN/CLC/Guides	Group for CEN-CENELEC Guides	33	4	
CEN/CLC/JTC 1	Criteria for conformity assessment bodies	18	2	

Figure 1. Screenshot of the list of CEN Technical Bodies at CEN website

If we click on our target Technical Body, i.e., CEN/TC 172, see Figure 2, we will find the following information in the “General” tab:

- Scope of CEN/TC 172.
- Name of the Chairperson.
- Name of the Secretary.
- Link to the National Standardisation Body (NSB) holding the Secretariat.
- Contact data (name and e-mail) of the CEN-CENELEC Management Centre (CCMC).
- Link to the pdf file of the business plan.
- Link to the electronic platform of the TC (only the members of the TC have access to it).

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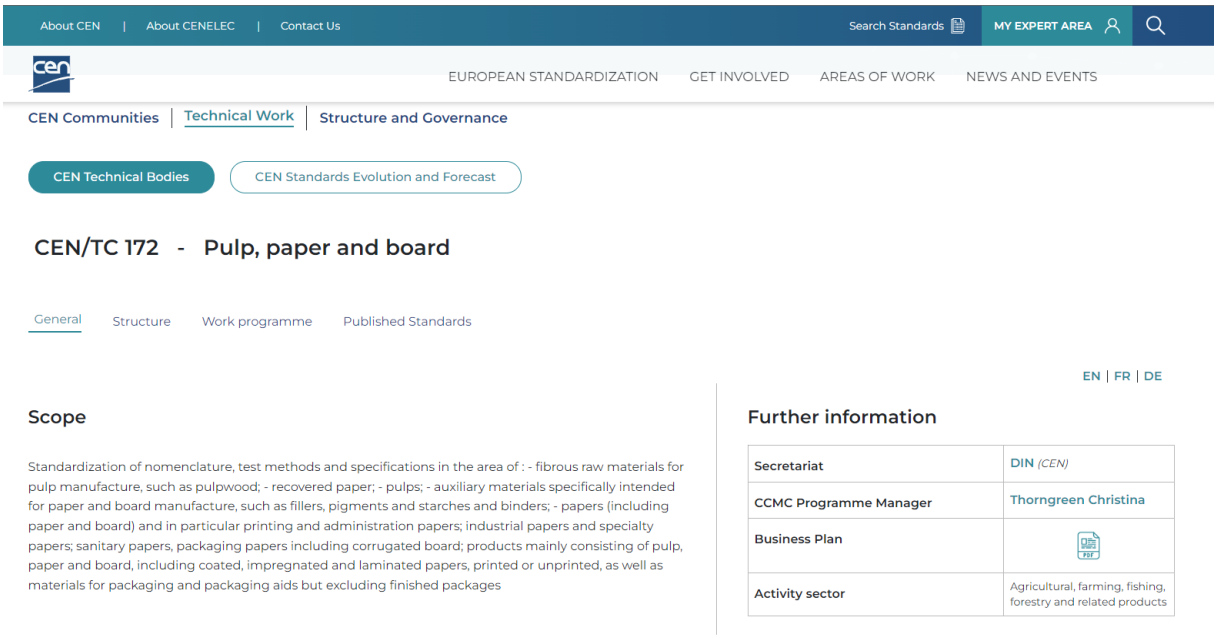

Figure 2. Screenshot of the General information given in CEN website on CEN/TC 172

In the "Structure" tab of CEN/TC 172, see Figure 3, we will find the list of its different Subcommittees and/or Working Groups, with links to further information on them.

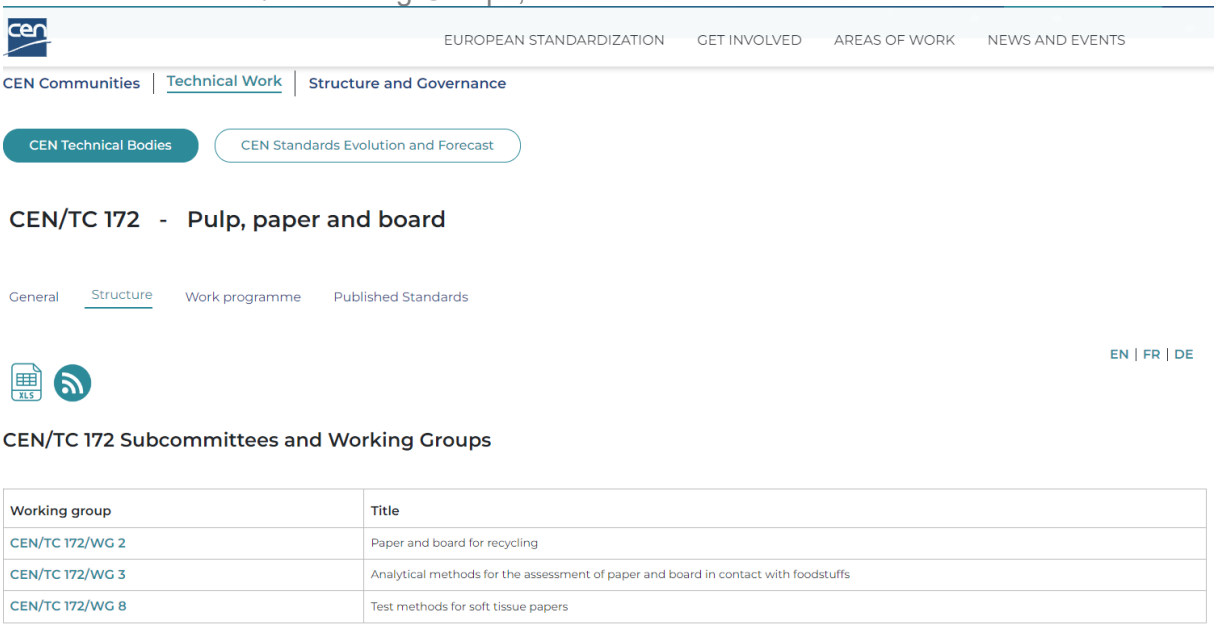

Figure 3. Screenshot of the information given in CEN website on the Structure of CEN/TC 172

In the "Work programme" tab of CEN/TC 172, see Figure 4, we have access to the list of all the ongoing standardisation projects of CEN/TC 172, i.e. the list of all the standards that are currently being developed and that are in the drafting or in approval stages. It provides information on its status, when the project started, when did the current stage start and when it is expected that the following stage will start.

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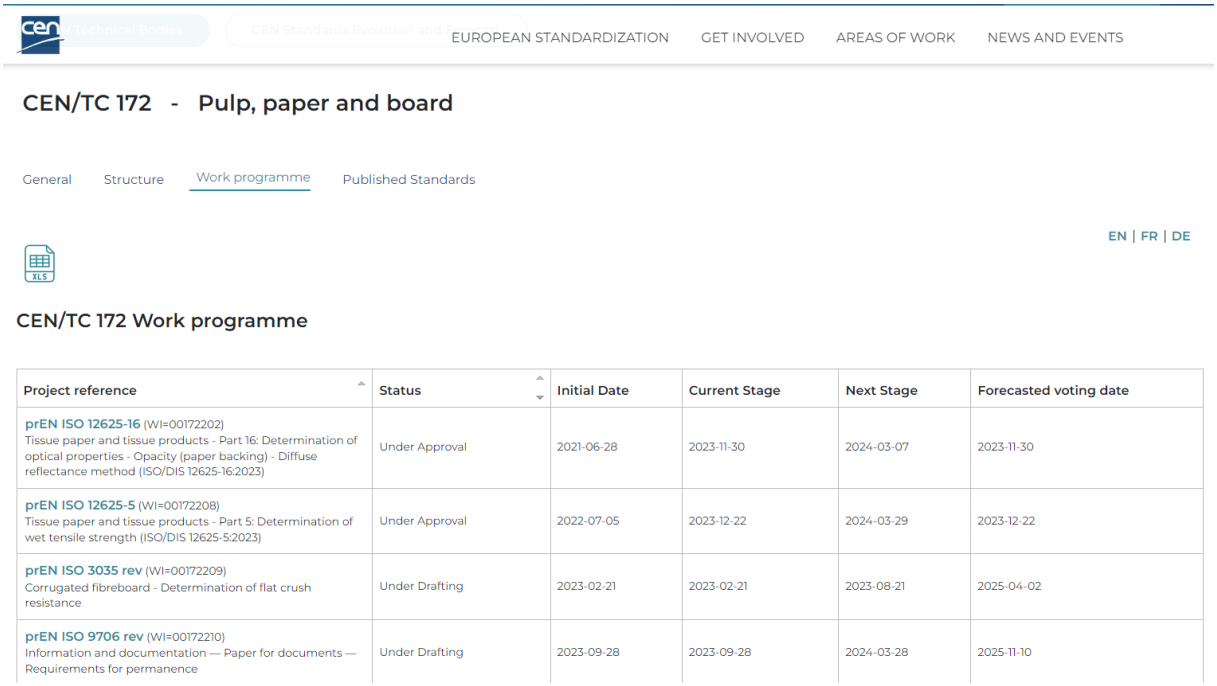


EUROPEAN STANDARDIZATION GET INVOLVED AREAS OF WORK NEWS AND EVENTS

CEN/TC 172 - Pulp, paper and board

General Structure Work programme Published Standards

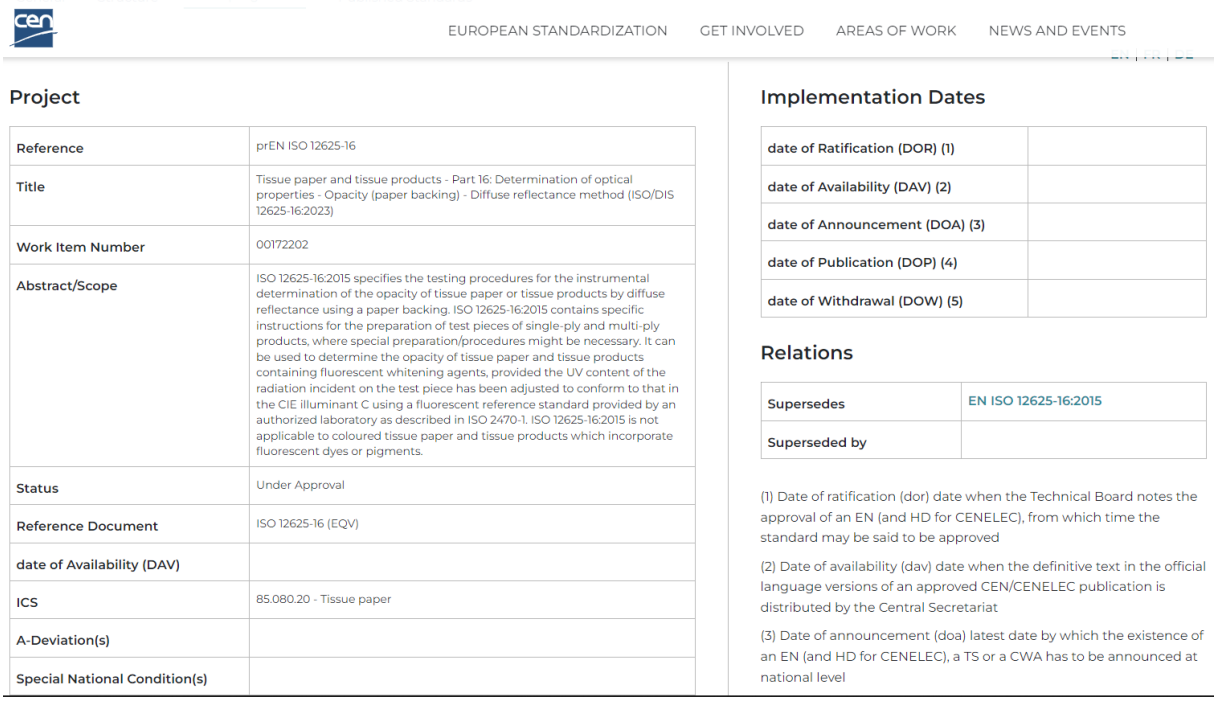
EN | FR | DE

CEN/TC 172 Work programme

Project reference	Status	Initial Date	Current Stage	Next Stage	Forecasted voting date
prEN ISO 12625-16 (WI=00172202) Tissue paper and tissue products - Part 16: Determination of optical properties - Opacity (paper backing) - Diffuse reflectance method (ISO/DIS 12625-16:2023)	Under Approval	2021-06-28	2023-11-30	2024-03-07	2023-11-30
prEN ISO 12625-5 (WI=00172208) Tissue paper and tissue products - Part 5: Determination of wet tensile strength (ISO/DIS 12625-5:2023)	Under Approval	2022-07-05	2023-12-22	2024-03-29	2023-12-22
prEN ISO 3035 rev (WI=00172209) Corrugated fibreboard - Determination of flat crush resistance	Under Drafting	2023-02-21	2023-02-21	2023-08-21	2025-04-02
prEN ISO 9706 rev (WI=00172210) Information and documentation — Paper for documents — Requirements for permanence	Under Drafting	2023-09-28	2023-09-28	2024-03-28	2025-11-10

Figure 4. Screenshot of the information given in CEN website on the Work Programme of CEN/TC 172

It also provides links to information on each of the standardisation projects, see Figure 5, where we will find information on its reference, title, Work Item Number (internal CEN reference for each project), a short abstract of the scope (only if already available), which is the reference document, if relevant (e.g. the reference document of prEN ISO 12625-16 is ISO 12625-16; prEN ISO 12625-16 will be equivalent to ISO 12625-16), information on when will the document be published (DOP), and also on the relationship of the document with the National standards and with the European legislation, etc.



EUROPEAN STANDARDIZATION GET INVOLVED AREAS OF WORK NEWS AND EVENTS

Project

Reference	prEN ISO 12625-16
Title	Tissue paper and tissue products - Part 16: Determination of optical properties - Opacity (paper backing) - Diffuse reflectance method (ISO/DIS 12625-16:2023)
Work Item Number	00172202
Abstract/Scope	ISO 12625-16:2015 specifies the testing procedures for the instrumental determination of the opacity of tissue paper or tissue products by diffuse reflectance using a paper backing. ISO 12625-16:2015 contains specific instructions for the preparation of test pieces of single-ply and multi-ply products, where special preparation/procedures might be necessary. It can be used to determine the opacity of tissue paper and tissue products containing fluorescent whitening agents, provided the UV content of the radiation incident on the test piece has been adjusted to conform to that in the CIE illuminant C using a fluorescent reference standard provided by an authorized laboratory as described in ISO 2470-1. ISO 12625-16:2015 is not applicable to coloured tissue paper and tissue products which incorporate fluorescent dyes or pigments.
Status	Under Approval
Reference Document	ISO 12625-16 (EQV)
date of Availability (DAV)	
ICS	85.080.20 - Tissue paper
A-Deviation(s)	
Special National Condition(s)	

Implementation Dates

date of Ratification (DOR) (1)	
date of Availability (DAV) (2)	
date of Announcement (DOA) (3)	
date of Publication (DOP) (4)	
date of Withdrawal (DOW) (5)	

Relations

Supersedes	EN ISO 12625-16:2015
Superseded by	

(1) Date of ratification (dor) date when the Technical Board notes the approval of an EN (and HD for CENELEC), from which time the standard may be said to be approved

(2) Date of availability (dav) date when the definitive text in the official language versions of an approved CEN/CENELEC publication is distributed by the Central Secretariat

(3) Date of announcement (doa) latest date by which the existence of an EN (and HD for CENELEC), a TS or a CWA has to be announced at national level

Figure 5. Screenshot of the information given in CEN website on prEN ISO 12625-16 at the Work Programme of CEN/TC 172

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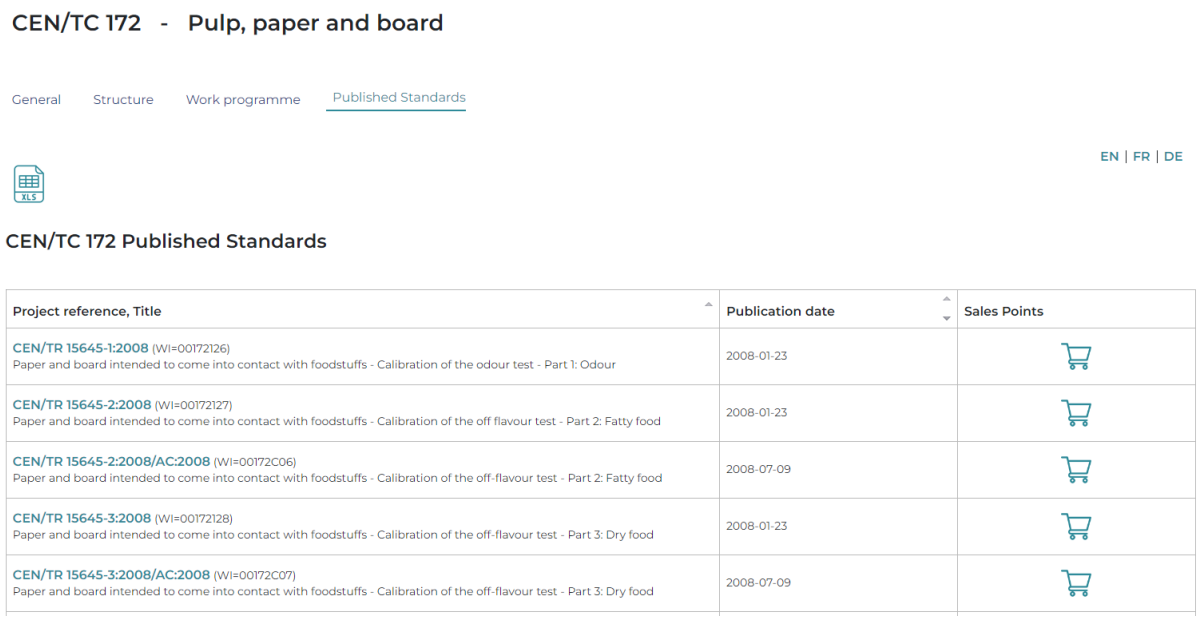
In the “Published Standards” tab of CEN/TC 172, see Figure 6, we have access to the list of all the active standards of CEN/TC 172, i.e. the list of all the standards that have been published and still have not been withdrawn. It provides similar information to the one given in the “Work Programme” section. It also provides links to information on each of the standards, see Figure 7, including information on its salespoints.



CEN/TC 172 - Pulp, paper and board

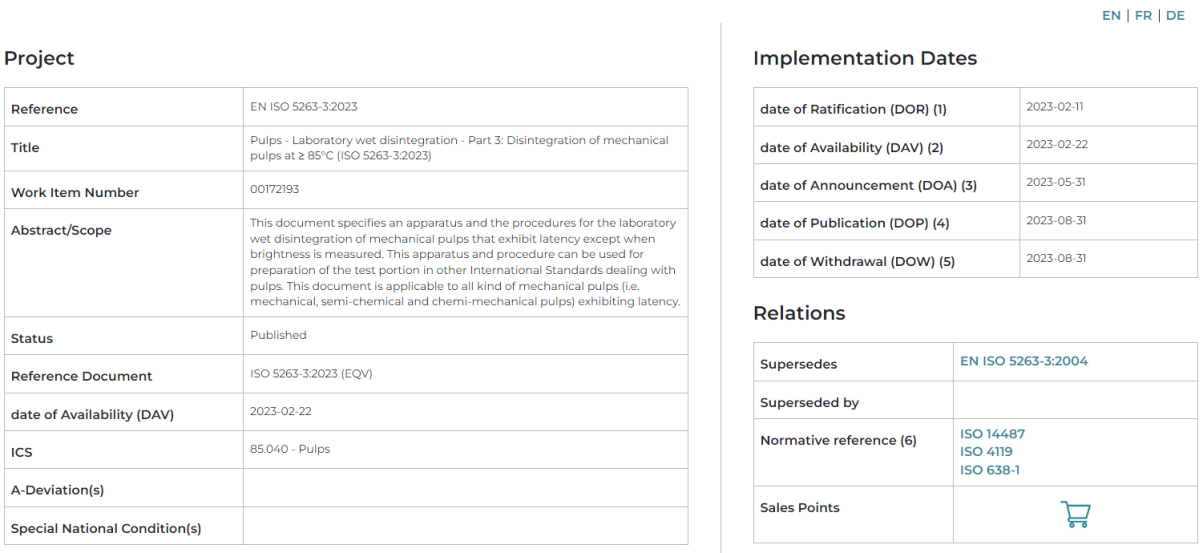
General Structure Work programme Published Standards

EN | FR | DE

CEN/TC 172 Published Standards

Project reference, Title	Publication date	Sales Points
CEN/TR 15645-1:2008 (WI=00172126) Paper and board intended to come into contact with foodstuffs - Calibration of the odour test - Part 1: Odour	2008-01-23	
CEN/TR 15645-2:2008 (WI=00172127) Paper and board intended to come into contact with foodstuffs - Calibration of the off flavour test - Part 2: Fatty food	2008-01-23	
CEN/TR 15645-2:2008/AC:2008 (WI=00172C06) Paper and board intended to come into contact with foodstuffs - Calibration of the off-flavour test - Part 2: Fatty food	2008-07-09	
CEN/TR 15645-3:2008 (WI=00172128) Paper and board intended to come into contact with foodstuffs - Calibration of the off-flavour test - Part 3: Dry food	2008-01-23	
CEN/TR 15645-3:2008/AC:2008 (WI=00172C07) Paper and board intended to come into contact with foodstuffs - Calibration of the off-flavour test - Part 3: Dry food	2008-07-09	

Figure 6. Screenshot of the information given in CEN website on the list of Published Standards of CEN/TC 172



EN | FR | DE

Project

Reference	EN ISO 5263-3:2023
Title	Pulps - Laboratory wet disintegration - Part 3: Disintegration of mechanical pulps at ≥ 85°C (ISO 5263-3:2023)
Work Item Number	00172193
Abstract/Scope	This document specifies an apparatus and the procedures for the laboratory wet disintegration of mechanical pulps that exhibit latency except when brightness is measured. This apparatus and procedure can be used for preparation of the test portion in other International Standards dealing with pulps. This document is applicable to all kind of mechanical pulps (i.e. mechanical, semi-chemical and chemi-mechanical pulps) exhibiting latency.
Status	Published
Reference Document	ISO 5263-3:2023 (EQV)
date of Availability (DAV)	2023-02-22
ICS	85.040 - Pulps
A-Deviation(s)	
Special National Condition(s)	

Implementation Dates

date of Ratification (DOR) (1)	2023-02-11
date of Availability (DAV) (2)	2023-02-22
date of Announcement (DOA) (3)	2023-05-31
date of Publication (DOP) (4)	2023-08-31
date of Withdrawal (DOW) (5)	2023-08-31

Relations

Supersedes	EN ISO 5263-3:2004
Superseded by	
Normative reference (6)	ISO 14487 ISO 4119 ISO 638-1
Sales Points	

Figure 7. Screenshot of the information given in CEN website on EN ISO 5263-3:2023 at the Published Standards of CEN/TC 172

b) Search by standard reference

All standardisation organisations have information on their standards on their websites:

- Link to the CEN standards search engine
- Link to the CENELEC standards search engine

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- Link to the ETSI standards search engine
- Link to the ISO standards search engine
- Link to the IEC standards search engine
- Link to the ITU standards search engine

These search engines allow you to look for standards according to different criteria. The most basic one is its reference, but they usually also allow searches by title, key words, etc.

6 Contact points to include standardisation in an innovation project

UNE, the Spanish Standardisation Body, is the standardisation partner of the INN-PRESSME project. One can contact UNE´s Innovation Department at Innovacion@une.org.
Nowadays, the main source of information on how can R&I projects take advantage of standardisation is standardsplusinnovation.eu. This portal, funded by the EC and by EFTA, is an initiative by the National Standardisation Bodies powered by CEN and CENELEC. There you can find lots of valuable resources and links to the contact points on innovation of each of the NSB of CEN and CENELEC.
If you want to move forward and start addressing standardization in a national or European R&I project or development, you should either:

- Contact your national standardization contact for research, development and innovation, or
- Contact CEN/CENELEC Research Helpdesk

7 Conclusions

Standards and the Standardisation system are a great tool for Research and Innovation projects. Standards are the common language of industry, societal actors and public administrations.

One can benefit from this system screening the standards relevant to your R&I project. This way you will have an overview of the state of the art and existing practices applicable to the project activities. It also helps to identify standardization gaps, relevant stakeholders and other key information.

One can take a more active role, influencing ongoing standardisation. The basic option would be contacting the relevant Technical Committee, providing informed suggestions, recommendations or proposals. An intermediate approach would be joining the Technical Committee by participating as an expert through your National Standardization Body (NSB) (national standardization bodies (CEN) and electrotechnical standardization committees (CENELEC)). However, if one wants to participate in the activity of a standardisation Technical Body representing your R&I project, the best way is asking for a Project Liaison between the R&I project and the Technical Committee.
Leading elaboration of new standards which support the R&I project results would be the optimum way of scaling up the findings of the project. This option increases the long-term impact of the project, sets basis for future innovation and takes advantage of the fastest-track options available in the standardization system. The recommended path for European R&I projects is to propose CEN and CENELEC the creation of a CEN-CENELEC Workshop (WS) to develop a CWA (CEN-CENELEC Workshop Agreement), which could even be the first

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step for a future EN or ISO standard. Another path would be joining an existing standardisation Technical Committee, proposing the drafting of a Technical Specification (TS) or a Technical Report (TR).

In any case, you are strongly recommended to engage with your relevant NSB.
You can check the list of NSBs members of CEN here, and the list of NSBs members of CENELEC here. The list of members of ETSI is available here.

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