



*DT-NMBP-01-2018*

*Open Innovation Test Beds for Lightweight, nano-enabled multifunctional composite materials and components (IA)*

## OASIS

**Open Access Single entry point for scale-up of Innovative Smart lightweight composite materials and components**

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**Guides for the use of standardisation by Test Bed users**

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## OASIS

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## Executive Summary

This document provides guidelines for the use of standardisation by Test Bed users and by R&I projects.

The OASIS project aims at fulfilling market potential of nano-enabled multifunctional lightweight products by:

- Gathering the manufacturing capacity of 12 pilot lines from nanoparticles to final product.
- Establishing a thorough service offer for associated technical & business development
- Granting direct access to the whole ecosystem through a Single Entry Point, for easier access especially for SMEs.

Oriented towards enhanced polymer matrix composites and aluminium, the pilot lines cover the whole manufacturing chain from nanoscale structures in unprocessed form, to intermediate products with nanoscale features and finally nano-enabled products. So, as to provide full support to interested companies, the new “Open Innovation Test Bed” will also offer complementary technical (modelling, characterization, safety, life cycle assessment) and non-technical services (business innovation coaching, business planning, access to private capital).

These modular services will be provided to companies, particularly to SMEs, to gain access to unique facilities and knowledge without high capital investment. Such support is particularly needed at the crossroads between three KETs (nanotechnologies, advanced materials and advanced manufacturing and processes) and in an era of multifunctional products when wide scope of know-how is needed for pre-production or industrial low-medium volume production.

This document is part of the works of T7.5, standardisation activities, of WP7, Dissemination, clustering and exploitation, of the OASIS project.

This document complements the information provided in D7.9, Report on the standardisation landscape and applicable standards. The aim of D7.9 was to provide an initial analysis of the standardisation landscape relevant for OASIS. It was produced with the objective of being a useful document to the stakeholders involved in OASIS, and as a first step towards the development of the following tasks:

- Development of a guide document that will ease the Test Bed users to identify the relevant standardisation environment and the relevant knowledge and contacts to start the process to standardise their innovative products.
- Contribution to the ongoing and future standardisation developments.

D7.12 starts explaining the benefits for standards and standardisation for R&I projects. Standards are industry-driven and promote comparability, compatibility and interoperability. They build trust, as their drafting, approval and revision processes are based on the consensus of all the relevant stakeholders, under clear rules of openness and transparency. Besides, they are common references for industry, for societal players and for public administrators. Due to this, they are the base of a large percentage of the world commerce and, according to the Public Procurement Directive, can be referenced as technical specifications in public procurements procedures. Besides, standards support public policies, as it is the case, e.g. of the European harmonised standards. Moreover, standards support the Sustainable Development Goals of the UN 2030 Agenda by implementing the sustainable use of resources and energy while protecting consumers, workers and the environment.

This document provides clear information on which are the different kinds of standardisation documents, and where are they produced. It also provides guidance on how to find information on these subjects.

## OASIS

However, the core of this deliverable is focused on how Test Bed users and R&I projects can take advantage of standards and standardisation and participate and influence in their contents and processes.

Finally, the contact points of all the relevant Technical Bodies are given.

NOTE: Other Test Beds which are supported in standardization activities by UNE will have deliverables similar to this one. The parts about general description of standardization can be the same, having differences in the particularization to each sector of activity. Some of the contents are based on the dissemination materials produced by UNE and other European standardization Bodies in the Standards+Innovation initiative, given as a reference for further information.

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## 1. Content of Deliverable

The structure of this document is the following:

- 1) Introduction to the benefits of standards.
- 2) Explanation of the different standardisation documents.
- 3) Practical information on the standardisation Technical Bodies and the standardisation system.
- 4) Key information on how to take advantage of the work performed by the standardisation system, providing clear strategies.
- 5) Practical information on how to access to the relevant information.
- 6) List of contact points of all the relevant standardisation Technical Bodies.
- 7) Conclusions.

## 2. Why standards?

There are 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 groundbreaking work, you will:

- have access to documents that show the state of the art and the consensus of the fields relevant to your development,
- share knowledge and benefits from existing standards,
- 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 industry-driven and promote comparability, compatibility and interoperability. Therefore, the first step should be to understand which standards are relevant and applicable to your work. If there is none, this can motivate the drafting of new documents, or the 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.

Standards are common references for industry, for societal players and for public administrators. Due to this, they are the base of a large percentage of the world commerce and, according to the Public Procurement Directive<sup>1</sup>, can be referenced as technical specifications in public procurements procedures. Besides, standards support public policies, as it is the case, e.g. of the European harmonised standards.

Moreover, standards support the Sustainable Development Goals of the UN 2030 Agenda by implementing the sustainable use of resources and energy while protecting consumers, workers and the environment.

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<sup>1</sup> 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. Standardisation and standards

#### 3.1. Focus on European standardization

OASIS is focused on nano technology and is under European funding. Therefore, given the scope and the geographical specificities, this clause will focus on the CEN (European Committee for Standardisation) standardisation and will consider the different CEN standardisation documents and technical bodies<sup>2</sup>. CEN standardisation documents can easily be correlated with the documents produced by CENELEC (European Committee for Electrotechnical Standardisation), ETSI (European Telecommunications Standards Institute), ISO (International Organisation for Standardisation) and IEC (International Electrotechnical Commission).

NOTE D7.9 of OASIS provides key information on the main Technical Bodies relevant to the activity of OASIS. Besides, the contact data of those Technical bodies are given in clause 6 of this document.

#### 3.2. Who produces standards

Standards are produced by Standards Organisations, and their processes assure transparency, openness and consensus.

The formal international standardisation organisations are:

- [ISO](#), International Organisation for Standardisation, is an independent, non-governmental international organization with a membership of 164 national standards bodies.
- [IEC](#), International Electrotechnical Commission, is an international organisation for the preparation and publication of International Standards for all electrical, electronic and related technologies.
- [ITU](#), International Telecommunication Union, is an international organisation for the development of international standards in the field of Information and Communications Technologies.

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 (EU) Regulation (1025/2012) settles the legal framework for standardization.

The three ESOs are:

- [CEN](#), European Committee for Standardisation, is an association that brings together the National Standardization Bodies of 34 European countries. 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.
- [CENELEC](#), European Committee for Electrotechnical Standardisation, is the European Committee for Electrotechnical Standardization and is responsible for standardization in the electrotechnical engineering field.
- [ETSI](#), European Telecommunications Standards Institute, is the European standards body dealing with telecommunications, broadcasting and other electronic communications networks and services

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<sup>2</sup> The main source for this clause is [CEN-CENELEC](#).



The standardization system in Europe is based on the national pillars, which are the National Standardization Bodies (NSBs). A National Standardization Body is the one stop shop for all stakeholders and is the main focal point of access to the concerted system, which comprises European and international standardization.

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](#)

At CEN, CENELEC, ISO and IEC level, standards are developed under the principle of National delegations. Other organisations, such as ETSI, have different participation principles such as direct participation.

A number of other organisations develop industry or sector based documents, or industry specific standards, under different production processes. We will refer to them as SDOs, Standards Developing Organisations.

### 3.3. Standardisation documents

#### 3.3.1. Standard (in case of European standard, EN)

A standard is 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 is taken by interested stakeholders who consider that a particular standard could address specific needs<sup>3</sup>.

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 approval process of an EN is quite demanding, as they are usually submitted to two National vote stages, where the document needs to be supported by approximately 2/3 of the National Standardization Bodies (NSBs) that do not abstain.

After the publication of a European Standard, each national standards body or committee is obliged to withdraw any national standard which conflicts with the new European Standard. This way, they are a key instrument for the consolidation of the Single Market and for 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)

A Technical Specification (TS) is a normative document 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,
- there is doubt on whether consensus has been achieved,
- the subject matter is still under technical development, or
- there is another reason precluding immediate publication as a European Standard.

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<sup>3</sup> Source: CEN-CENELEC.

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 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.

### 3.3.3. Technical Report (TR)

A Technical Report (TR) is an informative document that gives information on the technical content of 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)

A CEN/CENELEC Workshop Agreement (CWA) is a document developed by a Workshop (WS), that commonly is composed by a H2020 project partners. 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/CENELEC technical bodies and the credibility of European standardization in the market, a CWA shall not conflict with an EN, and shall be withdrawn if the publication of an EN brings the CWA into conflict with the EN.

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.

## 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.

These experts join 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 (TC) 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.

Technical Committees can be subdivided into Subcommittees (SC) and Working Groups (WG).

Each European TC or SC have a Chairperson and a Secretary. The Secretary is held by a National Standardisation Body (NSB).

Working Groups 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](#)
- For [IEC Technical Bodies](#)
- For [ITU Technical Bodies](#)

You can check key information on the main Technical Bodies relevant to the activity of OASIS in D7.9 of OASIS. Besides, you can find contact data in clause 6 of this document.

### 3.4.3. CEN/CENELEC Workshop (WS)

A CEN/CENELEC Workshop (WS) is a working platform open to the participation of any interested parties for elaboration of CEN/CENELEC Workshop Agreements (CWA).

The stakeholder involvement limits itself to those directly interested in the subject of the CWA.

WS are particularly relevant in emerging or rapidly-changing technologies that require quickly-developed specifications or results of research and innovation projects.

## 4. Benefits of standards for innovation projects and for innovative business

### 4.1. How can standardization help your innovation project

Through the process of standardisation, groundbreaking 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.

Consider standardisation in your project strategy. Power up your project with the current state of the art, provide feedback to help the standardisation system to review or update the existing standards or co-author new standards to support your innovations.

If you need to have a starting point for the project; standards are state of the art for industrial and societal practices.

If you need to ensure methodological robustness, improve the quality of the project's activities and outcomes or ensure broad applicability of project 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; can contribute to the dissemination of your results to a 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<sup>4</sup>.

### 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 also 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.

D7.9 of OASIS, Report on the standardisation landscape and applicable standards, covers this screening of the existing standards and ongoing relevant standardisation technical bodies.

#### 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.

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<sup>4</sup> Find more information at [www.standardsplusinnovation.eu](http://www.standardsplusinnovation.eu)

R&I projects have the opportunity of influencing ongoing standardisation. This way, the project takes the opportunity of ongoing standardization works relevant for the 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 the network of the project and to identify and overcome potential technical barriers or gaps.

There are three main ways for R&I projects to influence the ongoing standardisation developments. 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 subclause 3.4.1. One can check key information on the main Technical Bodies relevant to the activity of OASIS in D7.9. Besides, one can find contact data in clause 6 of this document.

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.

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 committed to provide input to the work of one or more CEN or CENELEC Technical Bodies. It allows the representation of the 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; nevertheless, liaison representatives have a voice and can submit comments 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 benefits 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.

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.

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. See the links to the whole list of the Technical bodies of CEN, CENELEC, ETSI, ISO, IEC and ITU in subclause 3.4.2. You can check key information of the main Technical Bodies relevant to the activity of OASIS in D7.9 of OASIS. Besides, you can find contact data in clause 6 of this document.

As a practical example, let’s look for the activity of CEN/TC 352, Nanotechnologies. Information can be accessed at the CENELEC, ETSI, ISO, IEC and ITU websites in a very similar way.

In this case, we would 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.

The screenshot shows the CEN website's 'Technical Bodies' page. At the top, there is a navigation bar with 'CEN COMMUNITY', 'TECHNICAL BODIES', 'STANDARDS EVOLUTION AND FORECAST', and 'SEARCH STANDARDS'. Below this, the 'Technical Bodies' section is titled, followed by a descriptive paragraph about CEN's standardization activities. A summary bar indicates: Technical Bodies 399 (Subcommittees 58 Working Groups 1620) Workshops 59 Total 458. There are language selection buttons for EN, FR, and DE. A search bar is present with 'Search list:' and buttons for 'OK', 'X', and a download icon. The main content is a table with the following data:

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 352, Nanotechnologies, see Figure 2, we will find the following information in the “General” tab:

- Scope of CEN/TC 352.
- 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).

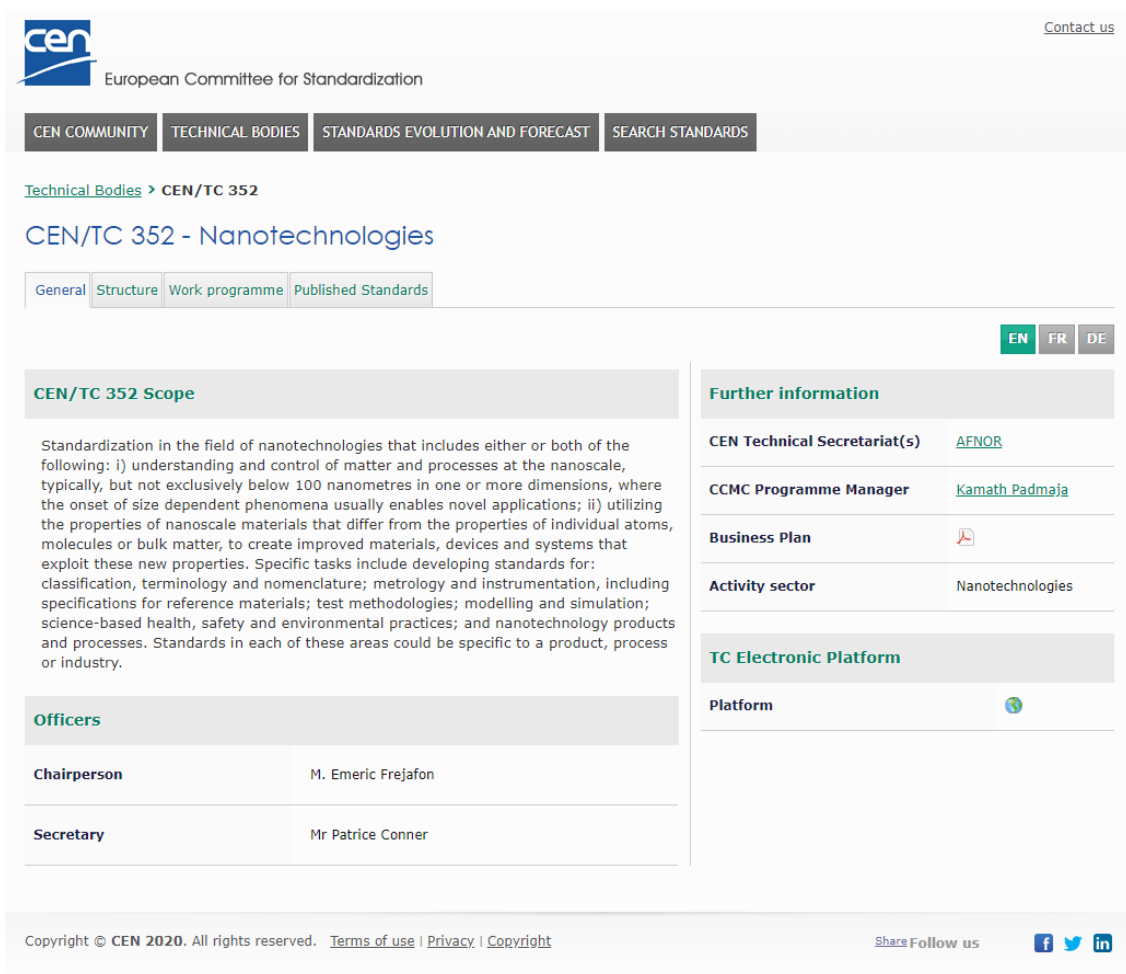


Figure 2. Screenshot of the General information given in CEN website on CEN/TC 352.

In the “Structure” tab of CEN/TC 352, see Figure 3, we will find the list of its different Subcommittees and/or Working Groups, with links to further information on them.



European Committee for Standardization

[Contact us](#)

CEN COMMUNITY TECHNICAL BODIES STANDARDS EVOLUTION AND FORECAST SEARCH STANDARDS

[Technical Bodies](#) > CEN/TC 352

## CEN/TC 352 - Nanotechnologies

General Structure **Work programme** Published Standards

EN FR DE


### CEN/TC 352 Subcommittees and Working Groups

Working group	Title
<a href="#">CEN/TC 352/WG 1</a>	Measurement, characterization and performance evaluation
<a href="#">CEN/TC 352/WG 2</a>	Commercial and other stakeholder aspects
<a href="#">CEN/TC 352/WG 3</a>	Health, safety and environmental aspects
<a href="#">CEN/TC 352/WG 4</a>	Manufactured nano-objects in food additives

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**Figure 3. Screenshot of the information given in CEN website on the Structure of CEN/TC 352.**

In the “Work programme” tab of CEN/TC 352, see Figure 4, we have access to the list of all the ongoing standardisation projects of CEN/TC 352, i.e. the list of all the standards that still have not been approved by CEN/TC 352 because they are in 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. 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 17200 is ISO 17200; prEN ISO 17200 will be equivalent to ISO 17200), 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 Committee for Standardization [Contact us](#)

CEN COMMUNITY TECHNICAL BODIES STANDARDS EVOLUTION AND FORECAST SEARCH STANDARDS

[Technical Bodies](#) > CEN/TC 352

## CEN/TC 352 - Nanotechnologies

General Structure Work programme **Published Standards**

EN FR DE

### CEN/TC 352 Work programme

Project reference	Status	Initial Date	Current Stage	Next Stage	Forecasted voting date
<a href="#">EprCEN ISO/TS 80004-3</a> (WI=00352032) Nanotechnologies - Vocabulary - Part 3: Carbon nano-objects (ISO/DTS 80004-3:2019)	Under Approval	2018-02-15	2019-08-13	2019-11-19	
<a href="#">EprCEN ISO/TS 80004-6</a> (WI=00352048) Nanotechnologies - Vocabulary - Part 6: Nano-object characterization (ISO/DTS 80004-6:2019)	Under Approval	2019-08-06	2019-08-13	2019-11-19	
<a href="#">EprCEN ISO/TS 80004-8</a> (WI=00352036) Nanotechnologies - Vocabulary - Part 8: Nanomanufacturing processes (ISO/DTS 80004-8:2019)	Under Approval	2018-06-27	2019-08-13	2019-11-19	
<a href="#">prCEN ISO/TR 18401</a> (WI=00352035) Nanotechnologies - Plain language explanation of selected terms from the ISO/IEC 80004 series	Under Approval	2018-09-19	2020-01-30	2020-02-13	
<a href="#">prCEN ISO/TS 12025 rev</a> (WI=00352030) Nanomaterials - Quantification of nano-object release from powders by generation of aerosols	Under Drafting	2017-01-12	2017-01-12	2017-07-12	
<a href="#">prCEN ISO/TS 80004-11</a> (WI=00352033) Nanotechnologies - Vocabulary - Part 11: Nanolayer, nanocoating, nanofilm, and related terms	Under Approval	2018-09-19	2020-01-30	2020-04-16	

Figure 4. Screenshot of the information given in CEN website on the Work Programme of CEN/TC 352.

CEN COMMUNITY TECHNICAL BODIES STANDARDS EVOLUTION AND FORECAST SEARCH STANDARDS

Technical Bodies > CEN/TC 352 > prEN ISO 17200

## CEN/TC 352 - Nanotechnologies

General Structure Work programme Published Standards

EN FR DE

Project	
Reference	prEN ISO 17200
Title	Nanotechnology - Nanoparticles in powder form - Characteristics and measurements (ISO/DIS 17200:2019)
Work Item Number	00352029
Abstract/Scope	
Status	Under Approval
Reference Document	ISO 17200 (EQV)
date of Availability (DAV)	
ICS	07.120 - Nanotechnologies
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	<a href="#">CEN ISO/TS 17200:2015</a>

(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

(4) Date of publication (dop) latest date by which an EN

Legal	
Directive(s)	
Mandate(s)	
Citation in OJEU	

**Figure 5. Screenshot of the information given in CEN website on prEN ISO 17200 at the Work Programme of CEN/TC 352.**

In the “Published Standards” tab of CEN/TC 352, see Figure 6, we have access to the list of all the active standards of CEN/TC 352, 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 352 - Nanotechnologies

General Structure Work programme Published Standards

EN FR DE

## CEN/TC 352 Published Standards



Reference, Title	Publication date	Sales Points
<a href="#">CEN ISO/TR 11811:2012</a> (WI=00352006) Nanotechnologies - Guidance on methods for nano- and microtribology measurements (ISO/TR 11811:2012)	2012-08-15	
<a href="#">CEN ISO/TS 12025:2015</a> (WI=00352019) Nanomaterials - Quantification of nano-object release from powders by generation of aerosols (ISO/TS 12025:2012)	2015-05-20	
<a href="#">CEN ISO/TS 13830:2013</a> (WI=00352007) Nanotechnologies - Guidance on voluntary labelling for consumer products containing manufactured nano-objects (ISO/TS 13830:2013)	2013-12-18	
<a href="#">CEN ISO/TS 17200:2015</a> (WI=00352020) Nanotechnology - Nanoparticles in powder form - Characteristics and measurements (ISO/TS 17200:2013)	2015-05-20	
<a href="#">CEN ISO/TS 19590:2019</a> (WI=00352031) Nanotechnologies - Size distribution and concentration of inorganic nanoparticles in aqueous media via single particle inductively coupled plasma mass spectrometry (ISO/TS 19590:2017)	2019-02-27	
<a href="#">CEN ISO/TS 80004-12:2017</a> (WI=00352028) Nanotechnologies - Vocabulary - Part 12: Quantum phenomena in nanotechnology (ISO/TS 80004-12:2016)	2017-07-05	
<a href="#">CEN ISO/TS 80004-1:2015</a> (WI=00352024) Nanotechnologies - Vocabulary - Part 1: Core terms (ISO/TS 80004-1:2015)	2015-12-16	
<a href="#">CEN ISO/TS 80004-2:2017</a> (WI=00352027) Nanotechnologies - Vocabulary - Part 2: Nano-objects (ISO/TS 80004-2:2015)	2017-07-05	
<a href="#">CEN ISO/TS 80004-3:2014</a> (WI=00352017) Nanotechnologies - Vocabulary - Part 3: Carbon nano-objects (ISO/TS 80004-3:2010)	2014-12-10	
<a href="#">CEN ISO/TS 80004-4:2014</a> (WI=00352018) Nanotechnologies - Vocabulary - Part 4: Nanostructured materials (ISO/TS 80004-4:2011)	2014-12-10	
<a href="#">CEN ISO/TS 80004-6:2015</a> (WI=00352022) Nanotechnologies - Vocabulary - Part 6: Nano-object characterization (ISO/TS 80004-6:2013)	2015-05-20	
<a href="#">CEN ISO/TS 80004-8:2015</a> (WI=00352021) Nanotechnologies - Vocabulary - Part 8: Nanomanufacturing processes (ISO/TS 80004-8:2013)	2015-05-20	

Figure 6. Screenshot of the information given in CEN website on the list of Published Standards of CEN/TC 352.

CEN/TC 352 - Nanotechnologies

General Structure Work programme Published Standards

EN FR DE


Project		Implementation Dates	
Reference	EN ISO 10801:2010	date of Ratification (DOR) (1)	2010-12-14
Title	Nanotechnologies - Generation of metal nanoparticles for inhalation toxicity testing using the evaporation/condensation method (ISO 10801:2010)	date of Availability (DAV) (2)	2010-12-15
Work Item Number	00352003	date of Announcement (DOA) (3)	2011-03-31
Abstract/Scope	ISO 10801:2010 gives requirements and recommendations for generating metal nanoparticles as aerosols suitable for inhalation toxicity testing by the evaporation/condensation method. Its application is limited to metals such as gold and silver which have been proven to generate nanoparticles suitable for inhalation toxicity testing using the technique specified.	date of Publication (DOP) (4)	2011-06-30
Status	Published	date of Withdrawal (DOW) (5)	2011-06-30
Reference Document	ISO 10801:2010 (EQV)	<b>Relations</b>	
date of Availability (DAV)	2010-12-15	<b>Supersedes</b>	
ICS	07.120 - Nanotechnologies	<b>Normative reference (6)</b>	
A-Deviation(s)		<a href="#">ISO 15900</a> <a href="#">ISO/IEC 17025</a> <a href="#">ISO/TS 27687</a>	
Special National Condition(s)		<b>Sales Points</b> 	
<b>Legal</b>		<p>(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</p> <p>(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</p> <p>(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</p>	
Directive(s)			
Mandate(s)			
Citation in OJEU			

Figure 7. Screenshot of the information given in CEN website on EN ISO 10801:2010 at the Published Standards of CEN/TC 352.

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](#)
- [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

### 6.1. Who to contact to include standardisation in an innovation project

[UNE](#), the Spanish Standardisation Body, is the standardisation partner of the OASIS project. One can contact [UNE's Innovation Department](#) at [Innovacion@une.org](mailto:Innovacion@une.org).

Nowadays, the main source of information on how can R&I projects take advantage of standardisation is [standardsplusinnovation.eu](http://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 (RDI) at the [RDI-COR-List](#), or
- Contact [CEN/CENELEC Research Helpdesk](#)

Besides, you can contact the secretary of the relevant standardisation Technical Bodies (see 3.4.1 and 6.2).

### 6.2. Contact data of the standardisation Technical Bodies relevant to the activity of OASIS

#### 6.2.1. Introduction

This subclause provides information on the persons leading and managing the standardisation Technical Bodies relevant to the activity of OASIS. Whenever has been possible, the contact data have also been provided<sup>5</sup>. Complementary information is given in Deliverable 7.9 of OASIS, Report on the standardisation landscape and applicable standards.

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<sup>5</sup> Information updated as per 2020-02-07. Source: Public websites of CEN, CENELEC, ETSI, ISO, IEC and ITU.

## 6.2.2. Standardisation Technical Bodies relevant to Nanotechnologies

### CEN/TC 352, Nanotechnologies

Chairperson	M. Emeric Frejafon
Secretary	Mr Patrice Conner
NSB holding the Secretariat	<a href="#">AFNOR</a>
Programme Manager	<a href="#">Kamath Padmaja</a>

### ISO/TC 229, Nanotechnologies

Chairperson	Denis Koltsov
Secretary	<a href="#">Mr David Michael</a>
NSB holding the Secretariat	<a href="#">BSI</a>
Programme Manager	<a href="#">Mr Nathan Taylor</a>

### CLC/SR 113, Nanotechnology standardization for electrical and electronics products and systems

Chairperson	
Secretary	Ms Julia Migenda
NSB holding the Secretariat	<a href="#">DKE</a>
Programme Manager	<a href="#">Ciudin Petru</a>

### IEC/TC 113, Nanotechnology for electrotechnical products and systems

Chairperson	Mr Akira Ono
Secretary	Mr Norbert Fabricius
NSB holding the Secretariat	Germany
Programme Manager	Mr Miroslav Siket

### CEN/SS I44, Nanotechnologies

Chairperson	N/A
Secretary	CEN-CENELEC Management Centre
NSB holding the Secretariat	N/A
Programme Manager	<a href="#">Kamath Padmaja</a>

### CEN/WS MODA, Materials modelling terminology, classification and metadata

Chairperson	N/A
Secretary	Mr Philipp Albrecht
NSB holding the Secretariat	<a href="#">DIN</a>
Programme Manager	<a href="#">Ascensão Gonçalo</a>

### Technical Committee E56 on Nanotechnology of ASTM International

Chairperson	Debbie L. Kaiser
Secretary	Shan Zou
NSB holding the Secretariat	N/A
Programme Manager	<a href="#">Kathleen Chalfin</a>

### 6.2.3. Standardisation Technical Bodies relevant to Mandate M/461, regarding nanotechnologies and nanomaterials

#### **CEN/TC 137, Assessment of workplace exposure to chemical and biological agents**

Chairperson	Dr Dietmar Breuer
Secretary	Dr Christian Thom
NSB holding the Secretariat	<a href="#">DIN</a>
Programme Manager	<a href="#">Ogbonna Jennifer</a>

#### **CEN/TC 195, Air filters for general air cleaning**

Chairperson	N/A
Secretary	Mrs Anna Martino
NSB holding the Secretariat	<a href="#">UNI</a>
Programme Manager	<a href="#">Mira Costa Mercedes</a>

### 6.2.4. Other standardisation Technical Bodies relevant to Nanotechnologies

#### **CEN/TC 248/WG 26, Textiles -Test methods for analysis of EC restricted substances**

Convenor	Dr Tony Sagar
Secretary	N/A
NSB holding the Secretariat	<a href="#">SIS</a>
Programme Manager	<a href="#">Dalier Claire</a>

#### **CEN/TC 264, Air quality**

Chairperson	Dr Rod Robinson
Secretary	Dr Rudolf Neuroth
NSB holding the Secretariat	<a href="#">DIN</a>
Programme Manager	<a href="#">Nam Andrea</a>

#### **CEN/TC 298, Pigments and extenders**

Chairperson	Dr Martin Reisinger
Secretary	Mr Bernd Reinmüller
NSB holding the Secretariat	<a href="#">DIN</a>
Programme Manager	<a href="#">Kamath Padmaja</a>

#### **CEN/TC 430, Nuclear energy, nuclear technologies, and radiological protection**

Chairperson	Mr Olivier Marchand
Secretary	Mr Eric Balcaen
NSB holding the Secretariat	<a href="#">AFNOR</a>
Programme Manager	<a href="#">Mira Costa Mercedes</a>

#### **CEN/TC 459/SC 1, Test methods for steel (other than chemical analysis)**

Chairperson	Dr L. Durrenberger
Secretary	Ms M. Sajot
NSB holding the Secretariat	<a href="#">AFNOR</a>
Programme Manager	<a href="#">Kamath Padmaja</a>



**CLC/SR 47F, Micro-electromechanical systems**

Chairperson	N/A
Secretary	N/A
NSB holding the Secretariat	<a href="#">DKE</a>
Programme Manager	<a href="#">Kohler Constant</a>

**CLC/SR 68, Magnetic alloys and steels**

Chairperson	N/A
Secretary	N/A
NSB holding the Secretariat	<a href="#">DKE</a>
Programme Manager	<a href="#">Kamath Padmaja</a>

**ACI Committee 241, Nanotechnology of Concrete**

Chairperson	Konstantin Sobolev
Secretary	Kimberly Kurtis
NSB holding the Secretariat	N/A
Programme Manager	N/A

**ACI Committee is 440, Fiber-Reinforced Polymer Reinforcement**

Chairperson	William Gold
Secretary	Carl Larosche
NSB holding the Secretariat	N/A
Programme Manager	N/A

**6.2.5. Standardisation Technical Bodies relevant to Sustainability****ISO/TMBG Technical Management Board – groups**

Chairperson	Ms Sauw Kook Choy
Secretary	<a href="#">Mr Antoine Morin</a>
NSB holding the Secretariat	<a href="#">ISO</a>
Programme Manager	<a href="#">Mr Antoine Morin</a>

**CEN/WS 072, Framework for SustainValue - Sustainable Value Creation in manufacturing networks**

Chairperson	Mr Teuvo Uusitalo
Secretary	Nicole Adomeit
NSB holding the Secretariat	<a href="#">DIN</a>
Programme Manager	Ms Andrea NAM

**ISO/TC 127, Earth-moving machinery**

Chairperson	Mr Charles Crowell
Secretary	<a href="#">Ms Sally Seitz</a>
NSB holding the Secretariat	<a href="#">ANSI</a>
Programme Manager	<a href="#">Mme Blandine Garcia</a>

**CEN/TC 350, Sustainability of construction works**

Chairperson	Mr Ari Ilomaki
Secretary	Mme Karine Dari
NSB holding the Secretariat	<a href="#">AFNOR</a>
Programme Manager	<a href="#">Pargana Nuno</a>

### **ISO/TC 59/SC 17, Sustainability in buildings and civil engineering works**

Chairperson	M Philippe Osset
Secretary	<a href="#">Mme Karine Dari</a>
NSB holding the Secretariat	<a href="#">AFNOR</a>
Programme Manager	<a href="#">Dr Anna Caterina Rossi</a>

### **ISO/TC 184, Automation systems and integration**

Chairperson	M Patrick Lamboley
Secretary	<a href="#">Mme Méliissa Jean</a>
NSB holding the Secretariat	<a href="#">AFNOR</a>
Programme Manager	<a href="#">Mrs Laura Mathew</a>

### **Technical Committee E60 on Sustainability of ASTM International**

Chairperson	Emily B. Lorenz
Secretary	Mark H. Englert
NSB holding the Secretariat	N/A
Programme Manager	<a href="#">Travis Murdock</a>

### **ISO/TC 283, Occupational health and safety management**

Chairperson	Mr Martin Cottam
Secretary	<a href="#">Ms Sally Swingewood</a>
NSB holding the Secretariat	<a href="#">BSI</a>
Programme Manager	<a href="#">Mr José Alcorta</a>

### **ISO/TC 262, Risk management**

Chairperson	Mr Jason Brown
Secretary	<a href="#">Ms Nele Zgavc</a>
NSB holding the Secretariat	<a href="#">BSI</a>
Programme Manager	<a href="#">Mr Ben Carson</a>

### **CEN/TC 114, Safety of machinery**

Chairperson	Mr Otto Görnemann
Secretary	Dr Christian Thom
NSB holding the Secretariat	<a href="#">DIN</a>
Programme Manager	<a href="#">Frankowska Joanna</a>

### **ISO/TC 199, Safety of machinery**

Chairperson	Mr Otto Görnemann
Secretary	<a href="#">Mr Dr. rer. nat Christian Thom</a>
NSB holding the Secretariat	<a href="#">DIN</a>
Programme Manager	<a href="#">Mr Nathan Taylor</a>

**CEN/TC 122, Ergonomics**

Chairperson	Mr Peter Frener
Secretary	Mr Sebastian Lentz
NSB holding the Secretariat	<a href="#">DIN</a>
Programme Manager	<a href="#">Ogbonna Jennifer</a>

**ISO/TC 159/SC 3, Anthropometry and biomechanics**

Chairperson	Dr Yoshiyuki Kobayashi
Secretary	<a href="#">Dr Kanako Nakajima</a>
NSB holding the Secretariat	<a href="#">JISC</a>
Programme Manager	<a href="#">Mme Blandine Garcia</a>

**ISO/TC 207, Environmental management**

Chairperson	Ms Sheila Leggett
Secretary	<a href="#">Mrs Christine Geraghty</a>
NSB holding the Secretariat	<a href="#">SCC</a>
Programme Manager	<a href="#">Mr José Alcorta</a>

**ISO/TC 176/SC 2 , Quality systems**

Chairperson	Mrs Katie Altoft
Secretary	<a href="#">Mrs Christine Geraghty</a>
NSB holding the Secretariat	<a href="#">SCC</a>
Programme Manager	<a href="#">Mr José Alcorta</a>

**CTN GET24 - TRANSFORMATION PROCESSES FOR INDUSTRY 4.0**

Chairperson	Fernando Carabias
Secretary	Mr. José Antonio Jiménez
NSB holding the Secretariat	<a href="#">UNE</a>
Programme Manager	Mr. José Antonio Jiménez

## 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). 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 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 the [contact points on innovation of each of the NSB of CEN and CENELEC](#).

## 8. Dissemination Level

The dissemination level of this deliverable of the OASIS project is public.