



WORK PROGRAMME 2015

European Standardization and related activities

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All the facts and figures in this publication were correct on 15 December 2014



Introduction

In CEN and CENELEC, we are committed to improving the transparency and openness of the European Standardization System. We want to make it as easy as possible for interested parties to access information about standards and contribute to our standardization activities.

A wide range of stakeholders are participating in our activities, via the national members of CEN and CENELEC in 33 countries, and at European level – as partner and liaison organizations. Through our members and stakeholders, we receive the views of business and industry (including SMEs). We also welcome input from societal stakeholders such as consumer organizations, environmental groups and trade unions, as well as public bodies, researchers, academia and other interested parties.

All of the standards adopted by CEN and CENELEC are developed by experts nominated by our members, affiliates, partner and liaison organizations, who contribute to the work of more than 400 technical bodies at European level. By combining the knowledge and ideas from all our stakeholders, we produce European Standards that meet market needs, whilst also reflecting the latest 'state of the art' in terms of technical and scientific knowledge.

The majority of European Standards produced by CEN and CENELEC are developed to address specific needs that have been identified by business and other potential users. Around one-third of our standards are prepared in response to requests from the European Commission, with the aim of supporting the implementation of European policies and legislation. Many of these standards enable businesses to ensure that their products or services comply with essential requirements laid down in EU Directives.

This publication provides an overview of the most important standardization activities that CEN and CENELEC will be supporting in 2015. We hope that the Work Programme will be a valuable tool for all stakeholders who are interested and may wish to get involved in the process of developing and revising standards.

For each specific sector, we provide information about which technical bodies are responsible for standardization activities in that sector, and how many standardization requests (Mandates) from the European Commission have been accepted by CEN and CENELEC. As our activities are closely aligned with the priorities of the EU and EFTA, we also indicate the most relevant elements of 'The annual Union work programme for European standardisation for 2015' (COM(2014) 500).

While the Work Programme reveals the variety of CEN and CENELEC's activities, it is simply not possible to include full details of every single work item. Therefore, we encourage you to explore our websites (www.cen.eu, www.cenelec.eu and www.cencenelec.eu) for more detailed and up-to-date information about our current and planned activities.

The national members of CEN and CENELEC are excellent sources of information and they can also provide good advice on how to get involved in standardization. You will find a list of our members in the back of this publication. In case you are not already in contact with the CEN and CENELEC member(s) in your country, I invite you to get in touch!

*Elena SANTIAGO CID
Director General of CEN and CENELEC*



Accessibility

Accessibility refers to the extent to which products, systems, services, environments, buildings or facilities can be accessed and used by as many people as possible, including people with disabilities and older people. European Standards are powerful tools to promote accessibility, as they can provide a framework of requirements and specifications for the production and delivery of accessible products and services.

CEN and CENELEC are committed to making sure that accessibility is integrated into European Standards, for example by applying a 'Design for All' approach during the development of standards. Standards that take into account the diverse needs and abilities of the whole population will support the development of products and services that are accessible for the widest possible range of users.

CEN and CENELEC cooperate with the international standardization organizations (ISO and IEC) to ensure that accessibility is addressed during the drafting of new standards and the revision of existing standards. They contributed to developing and revising the 2014 edition of ISO/IEC Guide 71 'Guidelines for addressing accessibility in standards', which has also been published at European level as CEN-CENELEC Guide 6.

The European Disability Strategy 2010-2020 states that legislative and other instruments, including standardization, should be used to ensure the accessibility of goods and services. The forthcoming European Accessibility Act should support the continued expansion of the market for accessible goods and services, especially in relation to public procurement (i.e. the purchasing of goods and services by public authorities) throughout Europe.

Technical bodies responsible:

CEN-CENELEC JWG 5 - Design for All
CEN-CENELEC JWG 6 - Accessibility in the built environment
CEN-CENELEC-ETSI JWG - 'eAccessibility'

Standards published by CEN & CENELEC:

1 European Standards (EN/HD)
4 other deliverables (TS/TR/CWA)

Standardization requests from EC/EFTA:

M/473 - Design for All
M/420 - Accessibility in the built environment

Elements of EU Work Programme 2015:

3.2.24. Accessibility

Further information:

www.cencenelec.eu/go/accessibility



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Accessibility



Design for All

The concept of accessible, universal or barrier-free design (also known as 'Design for All') relates to the objective of ensuring that a product, building or service can be used by as many people as possible. This may involve designing products or services that are readily usable by most users (without any modification), making products that can be adapted to different users, including older people and people with disabilities, or having standardized interfaces that are compatible with 'assistive technologies'.

The CEN-CENELEC Joint Working Group 'Design for All' (CEN-CLC JWG 5) is responsible for coordinating efforts to ensure that accessibility is addressed during the development of standards for products and services (in accordance with EC standardization request M/473). This work is being developed with the participation of interested stakeholders, including European and national organizations representing people with disabilities and older people.

In 2015, CEN and CENELEC will continue work on developing a standard that provides clear guidance on how to address accessibility by implementing a 'Design for All' approach in the design, development, production and provision of goods and services. This standard, which is due to be published in 2017, will support the implementation of the European Disability Strategy 2010-2020 and the anticipated European Accessibility Act, as well as the UN Convention on the Rights of Persons with Disabilities.

CEN and CENELEC will also adopt and implement a joint strategy with the aim of ensuring that accessibility is addressed during the development and revision of standards for products and services. This strategy will involve the identification and targeting of standardization activities where it is necessary to address accessibility, based on CEN-CENELEC Guide 6 'Guidelines for addressing accessibility in standards'. Tailored support (such as advice and training) will be made available to the relevant Technical Bodies.

OTHER STANDARDS AND ACTIVITIES TO BE DEVELOPED IN 2015

Accessibility in the built environment -

CEN and CENELEC hope to obtain financial support from the European Commission in order to develop a European Standard setting out accessibility requirements for public procurement in the built environment (in the framework of EC standardization request M/420). This work would be coordinated by the CEN-CENELEC Joint Working Group 'Accessibility in the Built Environment' (JWG 6).



In the Air and Space sector, CEN and CENELEC are developing and publishing standards in relation to Aerospace, Air traffic management, and the Space industry.

Standards and technical specifications for the aerospace industry are being developed by the AeroSpace and Defence Industries Association of Europe – Standardization (ASD-STAN), which cooperates closely with CEN. ASD-STAN is responsible for the technical content of standards defining products, materials, test methods and procedures for the construction, maintenance and use of aircraft and space vehicles. Specifications developed by ASD-STAN may be submitted to CEN for adoption as European Standards.

In the area of Air Traffic Management (ATM), CEN develops standards to ensure the interoperability of the European Air Traffic Management Network (EATMN) in the context of the Single European Sky (SES). Standardization work in this area is managed by the CEN Technical Committee 'Air Traffic Management' (CEN/TC 377) in the framework of a formal request from the European Commission (EC M/390).

Technical bodies responsible:

CEN/TC 377 - Air Traffic Management
CEN/CLC/TC 5 - Space

Standards published by CEN & CENELEC:

2239 European Standards (EN/HD)
2 other deliverables (TS/TR/CWA)

Standardization requests from EC/EFTA:

M/390 - Interoperability of the European Air Traffic Management Network (EATMN)
M/496 - Standardization regarding space industry

Elements of EU Work Programme 2015:

3.2.13. Air transport
3.2.18. Space at the service of citizens

Further information:

www.cen.eu/work/areas/airspace

Standardization activities related to the space industry are being managed by a joint CEN-CENELEC Technical Committee 'Space' (CEN/CLC/TC 5), in line with a formal request from the European Commission (EC M/496). CEN and CENELEC are cooperating closely with the European Cooperation for Space Standardization (ECSS), which brings together the European Space Agency (ESA), several national space agencies and Eurospace (representing the European Space Industry).

Global Navigation Satellite System

The CEN-CENELEC Technical Committee 'Space' (CEN/CLC/TC 5) is expected to finalize a European Standard that will enable the monitoring and management of road transport systems using a global navigation satellite system (GNSS) such as 'Galileo', which is being implemented by the European Union and European Space Agency (ESA).

The new European Standard (EN 16803-1) to be published by CEN and CENELEC in 2015 will address the use of GNSS-based positioning for road Intelligent Transport Systems (ITS), and 'definitions and system engineering procedures for the establishment and assessment of performances' in particular. This standard, which has been developed on the basis of contributions from leading experts in the fields of GNSS and ITS, will facilitate interoperability among different system implementations in different countries.



OTHER STANDARDS AND ACTIVITIES TO BE DEVELOPED IN 2015

Aerospace - CEN continues to collaborate with the AeroSpace and Defence Industries Association of Europe – Standardization (ASD-STAN), and expects to adopt some 45 standards developed by ASD-STAN as European Standards in 2015.

Air Traffic Management - CEN will continue to cooperate with the European Commission and EASA (European Aviation Safety Agency) in order to identify areas for possible future standardization activities to support the implementation of the EU Regulation (EC 216/2008) regarding common rules in the field of civil aviation and establishing a European Aviation Safety Agency.

Space - CEN and CENELEC are working on a variety of standards in the field of 'space engineering' and 'space product assurance', which are due to be finalized and/or adopted as European Standards in 2015. These include the following:

- 'Space engineering - Space environment' (EN 16603-10-04) - This standard applies to all product types which exist or operate in space and defines the natural environment for all space regimes.
- 'Space systems - Glossary of terms' (EN 16601-00-01) - This document controls the definition of all common terms used in the European Cooperation for Space Standardization (ECSS) Standards System.
- 'Space product assurance' (numerous standards in the EN 16602 series).





European Standards have a crucial role to play in creating a single market for chemical products and supporting the up-take of new products in the European market. They are also vital for ensuring that products placed on the European market are safe and that environmental aspects are taken into account. In particular, European standards can help to increase market transparency by providing common reference methods and requirements that enable the verification of claims made about different products, for example in relation to bio-based content, environmental sustainability, safety and toxicity, etc.

Technical bodies responsible:

20 CEN Technical Committees
(19, 139, 193, 212, 223, 260, 276, 298, 317, 321, 332, 335, 336, 343, 347, 360, 363, 382, 383, 386)

Standards published by CEN & CENELEC:

1015 European Standards (EN/HD)
38 other deliverables (TS/TR/CWA)

Standardization requests from EC/EFTA:

M/335 - Fertilizers
M/430 - Bio-polymers and bio-lubricants
M/491 - Bio-solvents and bio-surfactants
M/492 - Horizontal standards for bio-based products

Elements of EU Work Programme 2015:

2.1. Bio-based products including biofuels
3.2.8. Fertilisers
3.2.21. Chemicals

Further information:

www.cen.eu/work/areas/chemical

Bio-based products

Standards have a crucial role to play in supporting the growth of the bio-based products market. In particular, they can help to increase market transparency by providing common reference methods and requirements that enable the verification of claims regarding the bio-based content, bio-degradability or environmental sustainability of different products.

CEN is developing European Standards and other deliverables covering horizontal aspects of bio-based products and also in relation to specific types of bio-based products. These voluntary standards are being developed through a process of collaboration among experts and representatives from business and industry, research bodies, public authorities and agencies, consumer and environmental groups, and other interested stakeholders.

In 2015, the CEN Technical Committee 'Bio-based products' [CEN/TC 411] will continue working on the development of a series of standards covering horizontal aspects of bio-based products, in association with standardization request M/492. This work will include finalising the texts of draft standards on 'Bio-based products - sustainability criteria' (EN 16751) and 'Bio-based products - Life Cycle Assessment' (EN 16760).

CEN/TC 411 will also continue its work on methods for determining the bio-based (carbon) content of products by producing a European Standard based on CEN/TS 16640 and developing a draft European Standard in relation to radiocarbon analysis and elemental analysis (EN 16785). Standards will also be developed to provide declaration tools for the reporting and communication of the characteristics and attributes of bio-based products.



Regarding the development of standards and other deliverables for specific types of bio-based products (in association with standardization requests M/430 and M/491):

- CEN/TC 411 'Bio-based products' will produce a Technical Specification specifying requirements and test methods in relation to bio-based solvents (CEN/TS 16766).
- CEN/TC 19 'Gaseous and liquid fuels, lubricants and related products of petroleum, synthetic and biological origin' will continue to work on a European Standard specifying criteria and requirements for bio-lubricants and bio-based lubricants (EN 16807) on the basis of CEN/TR 16227.
- CEN/TC 249 'Plastics' is developing standards for bio-polymers and bio-plastics.
- CEN/TC 276 'Surface Active Agents' is preparing a draft standard on bio-based surfactants.

For further information see: www.cen.eu/go/bio

OTHER STANDARDS AND ACTIVITIES TO BE DEVELOPED IN 2015

Fertilizers - CEN/TC 260 'Fertilizers and liming materials' will continue to develop standards in support of the relevant European legislation (Regulation (EC) 2003/2003). These include a new European Standard (EN 16651) setting out a method to determine the presence of certain chemicals using high-performance liquid chromatography (HPLC).

Fireworks - CEN/TC 212 'Pyrotechnics' will continue to develop standards in relation to Fireworks, (Categories 1, 2, and 3) in support of the relevant European legislation (Directive 2007/23/EC and recast Directive 2013/29/EU).

Paints and varnishes - CEN/TC 139 'Paint and varnishes' will continue to enable the adoption of European Standards identical to international standards (developed by ISO), including a revised version of EN ISO 3248 'Determination of the effect of heat', and revised versions of standards relating to the preparation of steel substrates before application of paints and related products (series EN ISO 11124, EN ISO 11125 and EN ISO 11126).

Laboratory equipment - CEN/TC 332 'Laboratory equipment' will continue to enable the adoption of European Standards identical to international standards (developed by ISO), including new standards relating to certain types of Laboratory glassware such as Beakers (EN ISO 3819) and Vacuum-jacketed vessels for heat insulation (EN ISO 16496).



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Construction

CEN supports more than 100 Technical Committees in the construction sector. Many of these TCs develop European Standards to assess the performance of construction products and to provide the respective testing and or calculation methods. These harmonized European Standards provide a means for manufacturers to prepare declarations of performance (DoP) in accordance with provisions of the EU Construction Products Regulation (CPR - 305/2011) and to affix CE marking to their products.

Alongside standards for construction products, CEN also develops standards in relation to the design of buildings, such as the Structural Eurocodes and European Standards relating to the Energy Performance of Buildings (EPB), which provide tools for calculating the integrated energy performance of buildings as defined in Directive 2010/31/EU.

When developing standards for the construction sector, CEN depends on the active involvement of the relevant stakeholders and competent experts including manufacturers, national and European industry associations, laboratories and notified bodies, engineers, structural designers, the scientific community, and officials from the European Commission.

Harmonized European Standards are essential tools for the application of the Construction Products Regulation (CPR - 305/2011) and for the fulfilment of national building regulations. Besides this, some European countries refer to voluntary standards in their national regulations, thereby giving them legal value. For example, in some countries Eurocodes (or part of them) have replaced the old national codes for structural design. The European Commission supports the implementation and use of the Eurocodes in the EU Member States (Recommendation 2003/887).

Technical bodies responsible:

More than 100 CEN Technical Committees

Standards published by CEN & CENELEC:

3920 European Standards (EN/HD)

274 other deliverables (TS/TR/CWA)

Standardization requests from EC/EFTA:

35 Mandates (+ amendments and revisions)

Elements of EU Work Programme 2015:

2.2. Construction products and construction

3.1.3. Sustainable industrial policy,
construction and raw materials

3.2.16. Safety of infrastructure

Further information:

www.cen.eu/work/areas/construction





Structural Eurocodes

The Structural Eurocodes are a comprehensive set of standards that relate to the design of building and civil engineering works. They are widely used in the construction and civil engineering industry throughout Europe, and have also been implemented in neighbouring countries as well as in other countries around the world.

The European Commission has asked CEN to revise existing Eurocodes and extend the scope of Structural Eurocodes, incorporating new performance requirements and design methods (EC Mandate 515). This work is being carried out by the responsible CEN Technical Committee (CEN/TC 250) in cooperation with stakeholders including structural design companies and the scientific community, supported by the European Commission and its Joint Research Center (JRC).

In 2015, CEN will proceed with ongoing work to revise the existing Eurocodes for design, construction and civil engineering (in accordance with EC M/515), and to develop standards in relation to new areas of structural design and construction materials (such as structural glass, fibre-reinforced polymers and membrane structures).

The new generation of Eurocodes should be more user-friendly, with fewer nationally determined parameters. They will incorporate new methods and materials, and enable more efficient and sustainable design and construction. The revision process takes due account of relevant regulations, as well as feedback from users.

Energy performance of buildings

The European Commission has asked CEN to develop standards to promote the energy efficiency of buildings, including a methodology for calculating the energy performance of buildings, in line with the EU Directive on the energy performance of buildings (2010/31/EU). The CEN Project Committee 'Energy Performance of Buildings' (CEN/TC 371) is in charge of coordinating this work, in accordance with EC Mandate 480.

Specific standards are being developed by the CEN Technical Committees that deal with 'Thermal performance of buildings and building components' (CEN/TC 89), 'Ventilation for buildings' (CEN/TC 156), 'Light and lighting' (CEN/TC 169), 'Heating systems in buildings' (CEN/TC 228), and 'Building automation, controls and building management' (CEN/TC 247). Each new European Standard will be accompanied by a Technical Report with examples and background information.



Building Information Modelling

Building Information Modelling (BIM) makes use of computer software applications to compile complete and integrated data about a building that can be easily shared among all the parties involved in the design, construction and maintenance of a building. Increasingly, public authorities in European countries may require the use of such electronic modelling technology in the context of public works contracts and design contests.

CEN will establish a new Technical Committee on Building Information Modelling (BIM), which will enable CEN to adopt a number of existing international (ISO) standards as European Standards. This new TC may also develop standards (or other deliverables) in relation to IFC (Industry Foundation Classes), data dictionaries and information exchange procedures. The adopted standards could be used by designers (engineers and architects) and also by builders and maintenance companies.

OTHER STANDARDS AND ACTIVITIES TO BE DEVELOPED IN 2015

Construction Products - CEN will continue work on developing, revising and/or amending European Standards in support of the Construction Products Regulation (CPR - 305/2011). New standards regarding Product Category Rules for the development of Environment Product Declarations are due to be adopted in 2015.

Dangerous substances - CEN will proceed with the development of assessment methods for the release of dangerous substances.



Technical bodies responsible:

22 CEN Technical Committees
(52, 136, 207, 248, 252, 263, 279, 281, 289,
309, 332, 333, 355, 364, 369, 392, 398, 401,
402, 416, 421, 426)
2 CENELEC Technical Committees (59X, 61)

Standards published by CEN & CENELEC:

819 European Standards (EN/HD)
56 other deliverables (TS/TR/CWA)

Standardization requests from EC/EFTA:

8 requests active at the start of 2015
(more requests are expected during 2015)

Elements of EU Work Programme 2015:

3.2.2. Child safety
3.2.3. Safety of other consumer products
3.2.7. Fibre composition of textile products

Further information:

www.cen.eu/work/areas/consumerproducts
www.cenelec.eu/go/TC61

The development of European Standards in relation to various types of consumer products is a major area of activity for CEN, which has more than 20 Technical Committees working in this field. Meanwhile, CENELEC also develops and adopts standards in relation to the performance and safety of household and similar electrical appliances.

The European Standards developed by CEN and CENELEC set out requirements for various types of consumer products that are used by people in their daily lives, including: clothes and shoes; furniture and sports equipment; household electrical appliances; toys, playground equipment and nursery products.

In many cases, European Standards in relation to consumer products support the implementation of relevant EU legislation, including the General Product Safety Directive (2001/95/EC), the Toy Safety Directive (2009/48/EC), the Low Voltage Directive (2006/95/EC and 2014/35/EU) and the Machinery Directive (2006/42/EC).



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Safety of children

CEN and CENELEC develop and adopt European Standards that support child safety under the following categories: toys; nursery products and furniture; child resistant products and protective devices; and playground and sports equipment for children.

The CEN Technical Committee 'Safety of Toys' (CEN/TC 52) develops standards to support the implementation of the EU Toy Safety Directive (2009/48/EC) in the framework of EC Mandate 445. In 2015, CEN/TC 52 will work on revising the European Standards EN 71-3, which addresses the migration of certain elements from various categories of toy materials (for example when a toy is put in a child's mouth), and EN 71-8, which concerns 'Activity toys for domestic use'. This TC will also develop a Technical Report with guidelines on how to determine the suitability of toys for children of different ages.

CEN will continue developing standards with the aim of reducing risks to babies and young children in the sleeping environment. Three different Technical Committees (CEN/TC 207 'Furniture', CEN/TC 252 'Child use and care articles' and CEN/TC 248 'Textiles') are involved in the development of standards regarding requirements for cots, cot bumpers, suspended baby beds, duvets for cots and children's sleeping bags. European Standards in this area are intended to support the implementation of the General Product Safety Directive (2001/95/EC), in line with standardization request M/497 from the EC and EFTA.

CEN will proceed with work on European Standards and other deliverables designed to improve the safety of products that are used by or with children. In particular, CEN will:

- Publish a series of Technical Reports with General safety guidelines for Child use and care articles (CEN/TR 13387 – parts 1 to 5);
- Publish a Technical Report containing interpretations and clarifications of a number of standards relating to child use and care articles (CEN/TR 16411);
- Publish a European Standard setting out specifications in relation to cords and drawstrings on children's clothing (EN 14682);
- Finalize a European Standard on 'Soft baby carriers' (EN 13209-2);
- Adopt and publish a Technical Report 'Guidelines for the safety of children's slings' (CEN/TR 16512).

Safety of household and similar electrical appliances

CENELEC develops standards in relation to a wide range of household and similar electrical appliances – from toasters to tumble driers – working in close cooperation with its international counterpart IEC.

In 2015, the Technical Committee 'Safety of household and similar electrical appliances' (CLC/TC 61) will continue to develop standards that are intended to ensure the safe use of electrical appliances and protect the safety of users, bearing in mind the diversity of potential users (youngsters, elderly persons, disabled people, etc.).



CENELEC expects to finalize a number of standards in the EN 60335 series dealing with general safety requirements for electrical appliances and also specific requirements in relation to stationary cooking ranges, hobs, ovens and similar appliances.

CLC/TC 61 will also continue to work on amending the European Standard EN 61770:2009 'Electric appliances connected to the water mains - Avoidance of backsiphonage and failure of hose-sets' (amendment to be proposed by the end of 2015).

Stationary training equipment

CEN will continue working to revise and improve standards in relation to stationary training equipment including treadmills, training benches, exercise bicycles, steppers, rowing machines and elliptical trainers. These standards are being developed with the active participation of experts from companies that manufacture such products, alongside other stakeholders. European Standards in this area enable manufacturers to comply with the requirements of the General Product Safety Directive (2001/95/EC), in line with standardization request M/506 from the EC and EFTA.

The CEN Technical Committee 'Sports, playground and other recreational facilities and equipment' (CEN/TC 136) is cooperating with ISO in the framework of the Vienna Agreement, with the aim of promoting the adoption of international standards that are identical to European Standards covering these products. Having European Standards that are also recognized as international standards represents a significant advantage for European manufacturers that want to sell their products around the world.

OTHER STANDARDS AND ACTIVITIES TO BE DEVELOPED IN 2015

Candles - CEN's Project Committee on 'Candle fire safety' CEN/TC 369 intends to start working on the revision of European Standards relating to safety requirements for candles, candle supports, containers and accessories. This work would respond to a standardization request that the European Commission is expected to issue in 2015.

Ergonomics - CEN's Technical Committee on 'Ergonomics' (CEN/TC 122) will start implementing a project aimed at improving the availability of anthropometric data which relates to the size and shape of children's bodies, so that this data can be used by Technical Committees developing standards for products used by/destined

for children. This project is being co-financed by the European Commission and will lead to the development of a CEN Technical Report with measurements and typologies for data application.

Fireplaces for liquid fuels - CEN plans to publish a European Standard on 'Decorative appliances producing a flame using alcohol based or gelatinous fuel - Use in private households' (EN 16647), which has been developed in anticipation of a request (Mandate) from the European Commission. CEN/TC 46 will also produce a new version of the European Standard on 'Flued oil stoves with vaporizing burners' (EN 1).



Footwear - CEN is expected to publish a Technical Report with guidelines regarding the usage and presence of certain chemicals (known as 'substances of very high concern') in the footwear industry (CEN/TR 16417 developed by CEN/TC 309).

Furniture - CEN will publish a European Standard on safety requirements and test methods relating to domestic and kitchen storage units and kitchen-worktops (EN 14749). CEN/TC 207 will also continue to work on standards relating to chairs and tables for use in schools and other educational institutions (EN 1729 - parts 1 & 2).

Textiles and textile products - CEN is due to publish two Technical Reports developed by CEN/TC 248 'Textiles and textile products'. One of these will provide 'Guidance on health and environmental issues related to chemical content of textile products' (CEN/TR 16741). The other will set out 'Recommendations for the design and manufacture of children's clothing' (CEN/TR 16792).



**Technical bodies responsible:**

3 CEN Technical Committees (391, 263, 379)
CLC/TC 79 - Alarm Systems
CEN/CLC/JWG 8 - Privacy management for security technologies and services
CEN-CENELEC-ETSI Coordination Group 'Cybersecurity'

Standards published by CEN & CENELEC:

80 European Standards (EN/HD)
23 other deliverables (TS/TR/CWA)

Standardization requests from EC/EFTA:

M/487 - Programming mandate to establish security standards
M/XXX - Privacy management in the design and development and in the production and service provision processes of security technologies (pending)

Elements of EU Work Programme 2015:

3.2.19. Security
3.2.31. Defence

Further information:

www.cencenelec.eu/go/defsec

Europe's defence sector is an important source of quality jobs, and also plays a key role in enabling Europe to retain its position as a world leader in manufacturing and innovation. The need to reinforce the competitiveness of the defence industry has been highlighted in the framework of the Europe 2020 Strategy. In its Communication on the Defence and Security Sector (COM(2013) 542), the European Commission committed itself to promoting the development of dual-use or 'Hybrid Standards' for products which can have both military and civilian applications.

In the field of security and privacy, European standardization is a key element for opening-up the market for products and services, supporting the introduction of new technologies, ensuring interoperability and a common understanding among European countries. The security of information and communication systems (or 'cybersecurity') is an area of increasing concern, both for public authorities and for private companies. European standards are needed to meet specific requirements regarding the privacy of citizens and data protection, in line with relevant EU legislation.

Defence

The European Standardization Organizations (CEN, CENELEC and ETSI) have created a Defence Standardization Coordination Group (DSCG) with the aim of facilitating cooperation between the military and civil standardization communities in Europe. Building on the relationships established through the CEN-CENELEC Stakeholder Forum for Defence Procurement Standardization (SFDPS), the DSCG provides a forum for dialogue on standardization needs related to the defence sector, including dual-use or 'hybrid' standards for products which can have both military and civilian applications.



During 2015, the DCSG will continue to promote collaboration among all the relevant stakeholders, including the European Commission, the European Defence Agency (EDA) and the NATO Standardization Office. This work will focus in particular on the preparation of a roadmap, as requested by the European Council, regarding the development of technical standards that could be useful for Europe's defence industry. The DCSG will seek to identify standardization needs that should be included in this roadmap. It will also facilitate the allocation of standardization projects between CEN, CENELEC and ETSI, and prevent any duplication with the work of NATO.

Cybersecurity

The CEN/CENELEC/ETSI Cybersecurity Coordination Group (CSCG) gives strategic advice to the technical boards of CEN, CENELEC and ETSI on political and strategic matters related to cybersecurity standardization. Working in close cooperation with overseas partners (notably in the USA), with the EU institutions (including ENISA - the European Union Agency for Network and Information Security), and with the international standardization organizations (ISO and IEC), the CSCG seeks to contribute to the implementation of the European Union's Cybersecurity Strategy (adopted in February 2013).

Following the publication of a CEN-CENELEC-ETSI White Paper 'Recommendations for a Strategy on European Cybersecurity Standardization', which was presented to the European Commission in April 2014, the CSCG will continue working to identify gaps and define requirements for European and international standards for cybersecurity. The aim of this work is to establish a European cybersecurity standardization roadmap.

Security of the citizen

Following extensive consultations with relevant stakeholders, the European Standardization Organizations (CEN, CENELEC and ETSI) have developed standardization work programmes in relation to three specific sectors: Border security; Crisis management and civil protection; Chemical, Biological, Radiological, Nuclear and Explosive (CBRNE) materials. These work programmes take into account the legislative context, societal needs and relevant technological developments, in accordance with EC Mandate 487.

In 2015, CEN and CENELEC will proceed with implementing Phase 2 of EC M/487, and give further consideration to some of the proposals in the area of CBRNE materials as well as new items on terminology and guidelines for crisis management.



OTHER STANDARDS AND ACTIVITIES TO BE DEVELOPED IN 2015

Privacy - The new CEN and CENELEC Joint Working Group 'Privacy management in products and services' (CEN/CLC/JWG 8) will start work on developing standards in relation to 'privacy management in the design and development and in the production and service provision processes of security technologies' – in the framework of a request from the European Commission. European and national data protection authorities will be closely involved in this work, alongside representatives of consumer organizations.

Security management systems - CEN's Technical Committee 'Societal and citizen security' (CEN/TC 391) will finalize and publish a new Technical Specification containing 'Guidance for managing security in healthcare facilities' (CEN/TS 16900)

Security and alarm systems - CENELEC's Technical Committee 'Alarm systems' (CLC/TC 79) will finalize a new European Standard with guidelines for the application of video surveillance systems (EN 62676-4:2014), as well as a Technical Specification for 'Active infrared beam detectors' (TS 50131-2-9).

Two international standards are due to be endorsed and published as European Standards: 'Video surveillance systems for use in security applications – Part 3: Analogue and digital video interfaces' (EN 62676-3); and 'Alarm and electronic security systems – Part 11-2: Electronic access control systems - Application guidelines' (EN 60839-11-2).

CENELEC also expects to start work on developing standards relating to conformity tests for fire alarm systems, social alarm systems, CCTV-systems, and other monitoring and surveillance systems (pending a request from the European Commission).





Electrotechnology

European standardization activities in the electrotechnical sector are managed and supported by CENELEC, which supports a wide range of Technical Committees, Task Forces and Working Groups dealing with different topics and types of products. Common to all of these standardization activities is a strong commitment to ensuring the highest possible levels of safety and performance, as well as the most efficient use of energy. Experts representing the interests of industry and other stakeholders are actively involved in the standards development process.

Many of the European Standards developed by CENELEC respond to standardization requests (Mandates) issued by the European Commission. These harmonized standards are intended to help manufacturers, operators and other stakeholders to respect the essential requirements of relevant EU legislation, including the Low Voltage Directive (LVD - 2006/95/EC), the Electromagnetic Compatibility Directive (EMCD - 2004/108/EC), the Radio and Telecommunication Terminal Equipment Directive (R&TTED - 1999/5/EC) and the Electromagnetic Field Directive (EMFD - 2013/35/EU).

CENELEC collaborates closely with the International Electrotechnical Commission (IEC) in the framework of the Dresden Agreement. The result of this collaboration is that some 69% of all CENELEC standards are identical to international standards adopted by the IEC, and another 6% are based on IEC standards. This high level of alignment between European and international standards means that European companies active in the electrotechnical sector can benefit from having access to markets around the world.

Technical bodies responsible:

38 CENELEC Technical Bodies

Standards published by CEN & CENELEC:

4274 European Standards (EN/HD)

91 other deliverables (TS/TR/CWA)

Standardization requests from EC/EFTA:

23 Mandates accepted by CENELEC

Elements of EU Work Programme 2015:

3.2.28. Electrical and electronic equipment

Further information:

www.cenelec.eu/go/sectors



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Electric Cables

The CENELEC Technical Committee 'Electric cables' (CLC/TC 20) is due to publish a new European Standard on 'Fire resistance test for unprotected electric cables' (EN 50577). This standard specifies a test method to evaluate the maintenance of circuit integrity of electric cables under fire conditions. It is intended for use in conjunction with the standard EN 1363-1:2012 'Fire resistance tests - General requirements'.

CLC/TC 20 is also due to finalize a new European Standard on 'Charging cables for electric vehicles' (EN 50620). This standard has been developed following the adoption of standards to ensure interoperability and connectivity between electricity supply points, chargers and batteries of electric vehicles, which were developed by CEN and CENELEC in response to a request from the European Commission (EC M/468).

Furthermore, CENELEC will proceed with adopting a series of European Standards on the characterisation of material for electric cable accessories, based on Harmonization Documents (HD 631 - parts 1-4), which were adopted in 2007 and 2008.

OTHER STANDARDS AND ACTIVITIES TO BE DEVELOPED IN 2015

Electromagnetic Compatibility (EMC) - CENELEC will launch enquiries on draft European Standards in relation to Power Line Telecommunications (PLT), setting out limits and methods for measuring radio disturbance characteristics of modems for access networks (prEN 50561-2) and apparatus used in low-voltage installations (prEN 50561-3:2014).

In the framework of ongoing cooperation between CENELEC, ETSI and the European Commission with regard to the so-called 'Digital Dividend', CENELEC's Technical Committee on 'Electromagnetic Compatibility (EMC)' (CLC/TC 210) will proceed with revising the European Standard that sets out immunity characteristics for television broadcast receivers (EN 55020). This revision aims to improve the immunity of broadcast TV receivers to LTE (Long Term Evolution) wireless communication signals in the 790 MHz to 862 MHz band, such as those that are sent and received by '4G' tablets and smartphones.

Electromagnetic Fields - (EMF) - CENELEC's Technical Committee 'Electromagnetic fields in the human environment' (CLC/TC 106X) will develop a methodology for assessing the day-to-day exposure of a population to EMF. The results of this work will be published as a Technical Report,

which will also include information regarding equipment, sensors and applications that could be used to assess the public's exposure to EMF.

Information Technology - (CENELEC's Technical Committee 'Electrotechnical aspects of telecommunication equipment' (CLC/TC 215) will continue working on the development of European Standards for 'Data centre facilities and infrastructures' (EN 50600 series). The standards in this series will address specific aspects such as environmental control, telecommunications cabling infrastructure, security systems, management and operational information.

Lighting - CENELEC's Technical Committees 'Lamps' (CLC/TC 34A) and 'Luminaires and associated equipment' (CLC/TC 34Z) develop European Standards in the area of LED lighting, which can contribute to reducing electricity consumption. In 2015, CENELEC will continue working on European Standards regarding performance requirements for LED modules for general lighting (FprEN 62717) and non-ballasted LED lamps (prEN 62663-2), in response to a request from the European Commission (EC M/519).



Standards play a vital role in ensuring the safety and performance of all kinds of equipment that is used in the production and distribution of energy from various sources. Standards also support the development and dissemination of new technologies, which can lead to major advances in terms of reducing waste and improving efficiency, whilst also enabling the increased production of energy from renewable sources.

CEN and CENELEC are working with the European Commission and other stakeholders to develop and adopt European Standards that enable the integration of Europe's electricity and gas markets and support the implementation of the EU's policy framework for climate and energy, which includes ambitious targets with regard to energy efficiency, energy from renewable sources, and reductions in greenhouse gas emissions.

In response to growing concern about the current and potential impacts of climate change, the EU and its Member States are committed to achieving big reductions in emissions of carbon dioxide (CO₂) and other greenhouse gases. Compared to 1990 levels, emissions should be reduced 20% by 2020, 40% by 2030 and 80% by 2050. The EU has also adopted ambitious targets for saving energy by improving energy efficiency, and increasing the share of energy that is obtained from renewable sources such as solar and wind.

European Standards developed by CEN and CENELEC support the implementation of various Directives and Regulations that have been adopted at EU level, notably in relation to energy labelling, Ecodesign, energy services, renewable energy, fuel quality, etc., as well as the EU Directives on common rules for the internal market for electricity and gas (2009/72/EC and 2009/73/EC). CEN and CENELEC also contribute to maintaining high levels of safety in Europe's nuclear energy facilities.

Technical bodies responsible:

61 CEN Technical Committees
49 CENELEC Technical Committees
6 joint CEN-CENELEC Technical Bodies

Standards published by CEN & CENELEC:

1497 European Standards (EN/HD)
88 other deliverables (TS/TR/CWA)

Standardization requests from EC/EFTA:

EC/BC/CEN/89/6 Gas Appliances Directive
M/369 - Space heating appliance and energy capturing appliances
M/400 - Gas quality
M/475 - Biomethane
M/495 - Ecodesign
M/511 - Low Voltage Directive
M/525 - Pyrolysis oils

Elements of EU Work Programme 2015:

2.3. Ecodesign/Energy-related products
3.1.5. Smart grids and smart metering
3.2.15. Alternative fuels and related infrastructure

Further information:

www.cencenelec.eu/go/energy
www.cen.eu/work/areas/energy





Ecodesign and Energy Labelling

Ecodesign is an approach whereby manufacturers seek to minimize the amount of energy used during the lifecycle of a product. The EU Ecodesign Directive (2009/125/EC) establishes a framework for setting ecodesign requirements for energy-related products by means of specific Regulations dealing with different types of products.

The European Commission has issued a series of requests to the European Standardization Organizations (CEN, CENELEC and ETSI) regarding the development of European Standards to support the implementation of the Ecodesign Directive and related Regulations. Specific types of products covered by these Regulations include: air conditioning and ventilation systems, boilers, coffee machines, refrigeration units, ovens, hobs and grills, lamps and luminaires, tumble dryers, heating products, computers and monitors, washing machines, dryers and dishwashers, sound and imaging equipment, water heaters, etc.

Within CEN and CENELEC, almost 20 Technical Committees are involved in developing European Standards that will support the implementation of specific EU Regulations issued in the framework of the Ecodesign Directive. The overall coordination of this work is the responsibility of the CEN-CENELEC Ecodesign Coordination Group (Eco-CG).

In 2015, CEN and CENELEC will continue work on developing European Standards to enable the ecodesign of energy-related products including: power transformers, storage cabinets and blast cabinets, condensing units and process chillers, electrical lamps, space heaters and combination heaters, water heaters, hot water storage tanks and related products. They will also start working on Harmonized Standards in relation to the ecodesign of vacuum cleaners, ventilation units, computers and computer servers.

CENELEC expects to adopt a new European Standard on 'Energy consumption of vending machines' (EN 50597), developed by the CENELEC Technical Committee 'Performance of household and similar electrical appliances' (CLC/TC 59X).

CEN and CENELEC will continue to participate in preparatory studies related to products for which no EU Regulation is currently being drafted, such as: commercial refrigeration, wastewater pumps, pool and aquarium pumps, electric motors, compressors, windows, power-generating equipment, smart appliances, steam boilers, power cables, shower heads and taps.

Energy labelling enables consumers to compare the energy performance of different energy-related products and choose the most energy-efficient ones. Standardized energy labels provide clear, accurate and comparable information regarding the consumption of energy and other resources. The European Commission has asked CEN and CENELEC to develop European Standards to enable the implementation of the Energy Labelling Directive (2010/30/EU) and its supplementing Regulations (EC M/495).

In 2015, CEN and CENELEC will proceed with the development and publication of standards for product information and labelling with regard to the energy consumption of various energy-related products such as: ventilation units, vacuum cleaners, water heaters, hot water storage tanks and related products; space heaters, combination heaters and related products; domestic refrigeration; domestic dishwashers, washing machines and tumble dryers; air-conditioning and comfort fans.



Alternative Fuels Infrastructure

In the framework of the European Union's Clean Fuel Strategy, launched by the European Commission in 2013, a Directive on the deployment of alternative fuels infrastructure (2014/94/EU) has been adopted by the European Parliament and the Council of the EU. This Directive, which covers infrastructure for vehicles powered by electricity, hydrogen and natural gas (compressed or liquefied), states that technical specifications for interoperability of recharging and refuelling points should be specified in European or international standards.

In this context, a number of specific areas where further standardization activities would be necessary have been identified. These include: electric vehicle recharging points as well as hydrogen and natural gas refuelling points for motor vehicles and waterborne vessels.

CEN and CENELEC expect to start work on developing new European Standards (and revising existing ones) in support of the EU Directive on the deployment of alternative fuels infrastructure in 2015. This work will depend on the content (and acceptance) of a formal standardization request to be issued by the European Commission.

European Standards are to be developed (or revised) in relation to:

- Recharging infrastructure for electric cars, buses, vans and boats
- Hydrogen refuelling points for motor vehicles
- Natural gas (LNG, CNG) refuelling points for motor vehicles and boats, as well as connectors and receptacles.

Furthermore, CEN's Project Committee 'Natural gas and biomethane for use in transport and biomethane for injection in the natural gas grid' (CEN/TC 408) will continue working on the development of a European Standard (EN 16723-2) specifying requirements and test methods for natural gas and biomethane (and blends of both) intended for use as automotive fuels – in accordance with EC Mandate 475.

Gas Quality

The European gas market is becoming increasingly integrated, in line with the objectives of the EU Directive concerning common rules for the internal market in natural gas (2009/73/EC). However, the European Agency for the Cooperation of Energy Regulators (ACER) has identified that differences in gas quality specifications can lead to restrictions that prevent the free flow and trading of gas across borders.

In order to address this issue, the European Commission has asked CEN to develop a standard aimed at harmonizing gas quality specifications for high-calorific gas (H-gas) across Europe (EC M/400). The first phase of the work focused on research and was completed in 2012. The second phase, which concerns the development of a standard, is still ongoing.

In 2015, the CEN Technical Committee 'Gas infrastructure' (CEN/TC 234) is expected to finalize a new draft standard (EN 16726) specifying quality characteristics, parameters and limits for H-gas - under EC Mandate 400.

CEN's Project Committee 'Natural gas and biomethane for use in transport and biomethane



for injection in the natural gas grid' (CEN/TC 408) will continue working on the development of a European Standard (EN 16723-1) specifying requirements and test methods for biomethane for injection in the natural gas network – in accordance with EC standardization request M/475 (also taking into account the work under EC M/400).

CEN and CENELEC will also seek to further develop their cooperation with the European Network of Transmission System Operators for Gas (ENTSOG), with the aim of ensuring compatibility and complementarity during the development of European Standards and Network Codes that relate to the European gas market.

OTHER STANDARDS AND ACTIVITIES TO BE DEVELOPED IN 2015

Automotive Fuels - CEN anticipates the adoption of new European Standards setting out requirements and test methods in relation to 'Automotive B10 diesel fuel' (EN 16734) and 'High FAME diesel fuel (B20 or B30)' (EN 16709). These standards have been developed by CEN's Technical Committee 'Gaseous and liquid fuels, lubricants and related products of petroleum, synthetic and biological origin' (CEN/TC 19).

Nuclear Energy - CEN has set up a Workshop (CEN/WS 64) to address standardization issues relating to the Design and Construction Code for mechanical equipments of innovative nuclear installations. In 2015, this Workshop will assess the potential for the AFCEN codes (used by the French nuclear industry) for design and construction to be used throughout Europe in relation to second and third generation nuclear installations.

Pyrolysis Oils - CEN will continue work on developing standards for 'pyrolysis oils produced from biomass feedstocks to be used in various energy applications or intermediate products for subsequent processing'. This work is being carried out by CEN/TC 19 in response to a request from the European Commission (EC M/525).

Smart Grids - Following the completion of work requested by the European Commission (EC M/490), the CEN-CENELEC-ETSI Smart Grid Coordination Group (SG-CG) will continue to coordinate the standardization activities of the European Standardization Organizations in relation to Smart Grids, with a particular focus on Smart Energy Grids.

Smart Metering - CEN and CENELEC will continue to work with ETSI and relevant stakeholders on standardization issues linked to the development and roll-out of smart metering systems for the supply of electricity, gas, water and heat. This work is being coordinated by the CEN-CENELEC-ETSI Smart Meters Coordination Group (SM-CG).

The CEN Technical Committee 'Communication systems for meters and remote reading of meters' (CEN/TC 294) will work to finalize a series of draft European Standards relating to wireless mesh networking for meter data exchange (EN 16836 series). CEN also expects to finalize revised and updated version of the European Standard on functional requirements of gas measuring systems (EN 1776) – developed by CEN/TC 234 'Gas infrastructure'.

Meanwhile, CENELEC's Technical Committee 'Home and Building Electronic Systems (HBES)' (CLC/TC 205) will aim to finalize the content of draft standards relating to 'General requirements for Home and Building Electronic Systems (HBES) and Building Automation and Control Systems (BACS)' (parts of the EN 50491 series).



CEN and CENELEC contribute to protecting the environment by working with their members and stakeholders to develop standards that help companies and other organizations to improve their environmental performance, and which in many cases support the implementation of European environmental legislation. They also follow a horizontal approach to promote the integration of objectives such as sustainability, resource efficiency and climate resilience into a wide range of European standardization activities.

Many of the European Standards that specifically address environmental issues are intended to support the implementation of relevant legislation. By making use of these standards, companies and organizations can contribute to protecting the environment and they also gain direct financial benefits by reducing their use of valuable resources such as energy and water, producing less waste, preventing accidents and avoiding clean-up and compensation costs. Moreover, by demonstrating their commitment to the environment, companies and organizations can profit from being perceived in a more positive way by their current and potential customers, as well as by their employees and other stakeholders.

CEN and CENELEC work in close cooperation with their members and partners, including ECOS (European Environmental Citizens Organisation for Standardisation) and ANEC (European Association for the co-ordination of consumer representation in standardisation), in order to ensure that environmental and consumer interests are taken into account during the development of standards for various types of products, services and processes.

The CEN Strategic Advisory Body on Environment (SABE) advises the CEN Technical Board on strategic issues related to the environment, and CENELEC TC/111X 'Environment' also provides advice to the Technical Board of CENELEC. All Technical Bodies in CEN and CENELEC are expected to take environmental aspects into account. CEN also has an Environmental Helpdesk that provides support and services to Technical Bodies regarding how to address environmental aspects in standards.

Technical bodies responsible:

17 CEN Technical Committees
(164, 165, 183, 223, 230, 260, 264, 292, 308, 335, 343, 345, 351, 366, 400, 406, 411)
1 CENELEC Technical Committee (111X)

Standards published by CEN & CENELEC:

390 European Standards (EN/HD)
94 other deliverables (TS/TR/CWA)

Standardization requests from EC/EFTA:

M/424 – Water Framework Directive
M/478 – Greenhouse gas (GHG) emissions
M/503 – Ambient air quality legislation
M/513 – Gaseous hydrogen chloride (HCl) emissions
M/514 – Volatile organic compounds (VOC) emissions
M/518 – Waste Electrical and Electronic Equipment
M/526 – Adaptation to Climate Change

Elements of EU Work Programme 2015:

2.4. Waste recycling
2.6. Air quality and industrial emissions
3.4. Climate change and Resource Efficient Europe

Further information:

www.cen.eu/work/areas/env
www.cenelec.eu/go/TC111X



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Adaptation to Climate Change

Standards have a crucial role to play in helping to make key infrastructures, as well as products and services, more resilient and less vulnerable to the impacts of climate change, which may include a higher frequency of floods, droughts and so-called 'severe weather events', as well as changes in average temperatures. CEN and CENELEC are cooperating with the European Commission to ensure that standardization contributes to the successful implementation of the EU Strategy on adaptation to climate change (COM(2013) 216).

CEN and CENELEC have established an 'Adaptation to Climate Change' Coordination Group, which will coordinate standardization activities to be developed in the framework of a request from the European Commission (EC M/526) that was accepted in 2014.

In 2015, CEN and CENELEC will implement the Programming Phase of EC Mandate 526. The main aim during this phase is to establish a list of twenty priority standards that would need to be revised or developed in each priority sector: construction, energy and transport. Attention will also be given to the resilience of ICT infrastructures that are necessary to ensure the effective functioning of the three priority sectors.

As part of the work under EC Mandate 526, CEN intends to publish a 'climate supplement' to CEN Guide 4 'Guide for addressing environmental issues in product standards', providing specific guidance on how standard writers can address the challenges and consequences of climate change. This supplement is being developed by an expert group of the CEN Strategic Advisory Body for the Environment (SABE).

Air Quality

CEN is engaged in a range of standardization activities that support the European Union's policies in relation to air quality and climate. Many of these activities are being developed in response to specific requests from the European Commission.

The CEN Technical Committee 'Air Quality' (CEN/TC 264) is responsible for developing European standards for assessing and measuring greenhouse gas (GHG) emissions of energy-intensive industries (EC M/478), emissions of volatile organic compounds (VOC) from diffuse and fugitive sources (EC M/514), concentrations of gaseous hydrogen chloride (HCl) in waste gases (EC M/513), and particulate matter in ambient air (EC M/503).

The major deliverable of next year will be the standardization work on GHG emissions in five energy intensive industries: steel and iron, cement, aluminum, lime and ferroalloy production. The standards contain harmonized methods for measuring, testing and quantifying GHG emissions from sector-specific sources. The methods are intended to be extended to other energy intensive industries in the future. The current work items were transferred to ISO in order to be processed as EN ISO standards under the Vienna Agreement if the outcome of the enquiry is positive in ISO.

Furthermore, CEN expects to receive formal requests from the European Commission for the development of new standards in relation to stationary source emissions (long term sampling of PCDDs/PCDFs and PCBs), and ozone precursors.



Waste

Standards have an important contribution to make in terms of preventing and reducing waste, as well as providing tools to facilitate the identification, management and treatment of waste, including the recovery and recycling of valuable substances and materials.

CENELEC, through its Technical Committee 'Environment' (CLC/TC 111X), is leading the development of standards (and other deliverables) that will support the implementation of the EU Directive on Waste Electrical and Electronic Equipment (2012/19/EU - WEEE). These standards, which are being developed in response to a request issued by the European Commission (EC M/518), cover various aspects of the treatment of electronic waste (including collection, treatment requirements, de-pollution and preparing for re-use).

Meanwhile, CEN will continue to support standardization activities in relation to several waste-related issues, including the recovery and recycling of materials obtained from End-of-Life Tyres (ELT) (CEN/TC 366). CEN is also ready to start working on any new standardization activities that may be required to support EU policies and legislation in relation to waste, for example regarding the determination of hazardous properties.

OTHER STANDARDS AND ACTIVITIES TO BE DEVELOPED IN 2015

Resource efficiency - CEN and CENELEC will continue discussions with the European Commission with the aim of identifying possible standards that could contribute to the implementation of the Roadmap to a Resource Efficient Europe (COM(2011) 571), which is one of the flagship initiatives under the Europe 2020 Strategy. It is possible that some new standardization activities will be launched in 2015.

Substances of high concern - CEN will complete the development of a standardization roadmap in relation to substances of high concern in articles, based on consultations with industry representatives and other stakeholders. The aim of this exercise is to identify which new standards might be needed to support the implementation of relevant European legislation such as the REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) Regulation, the Waste Directives, the POP (Persistent Organic Pollutants) Regulation, and the RoHS (Restriction of Hazardous Substances in electrical and electronic equipment) Directive.

Water - CEN is due to publish 8 new standards developed by CEN/TC 230 'Water analysis', which were requested by the European Commission

(EC M/424) in order to support the implementation of the Water Framework Directive 2000/60/EC. CEN also expects to launch new standardization activities in relation to the re-use of waste water.

General guidance - CEN will prepare documents containing specific advice on how to address environmental issues during the development of standards for services and test methods, which will be published as supplements to CEN Guide 4 'Guide for addressing environmental issues in product standards'.

Support measures - CEN and CENELEC intend to launch a communication campaign with the aim of raising awareness and understanding among different target groups regarding the important role that standards play in relation to the environment. Meanwhile, the CEN Environment Helpdesk will be reviewed, with a view to improving the support that is available to Technical Bodies when they are developing or revising standards. Furthermore, a project will be launched with the aim of providing tailored support to Technical Committees regarding the use of hazardous chemicals in standards.

**Technical bodies responsible:**

9 CEN Technical Committees
(194, 275, 302, 307, 327, 338, 415, 425, 429)
CEN WS 70 - Healthy food for people at risk of poverty 'CHANCE'

Standards published by CEN & CENELEC:

445 European Standards (EN/HD)
63 other deliverables (TS/TR/CWA)

Standardization requests from EC/EFTA:

M/381 - Test methods for food hygiene
M/422 - Test methods for heavy metals and iodine in food
M/520 - Test methods for mycotoxins in food
M/521, M/522 & M/523 - Test methods in the field of animal nutrition

Elements of EU Work Programme 2015:

3.2.4. Feed and food quality and safety
3.4.3. Sustainable food

Further information:

www.cen.eu/work/areas/food

European Standardization in the field of food and feed contributes to improving levels of food safety and protecting the health of consumers. CEN provides validated test methods that are used by food companies for internal checks and also by the competent public authorities for official control purposes. Many of the standards adopted by CEN are developed in response to formal requests from the European Commission, and these standards are used to support the implementation of relevant European legislation.

Thanks to the close collaboration between CEN and ISO, the majority (around 70%) of European Standards in this field are identical to international standards. Having test methods that are recognized internationally is important for food companies which want to sell their products in many different markets.



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Test Methods

In order to support the effective implementation of European legislation relating to food safety, CEN will continue to develop test methods for food hygiene (microbiology), heavy metals and iodine in food, food contaminants and mycotoxins in food (in the framework of EC Mandates 381, 422, 463 & 520).

In 2015, CEN expects to adopt European Standards developed by CEN/TC 275 'Food analysis - Horizontal methods' providing methods for food analysis allowing determination of different chemical compounds in food. They include standards on testing for the presence of: acrylamide (CEN/TC 275 N 1061); benzo[a]pyrene, benz[a]anthracene, chrysene and benzo[b]fluoranthene (EN 16619); and furan in coffee products (EN 16620).

CEN is also due to publish a revised standard on the determination of wet gluten in wheat and wheat flour by mechanical means (EN ISO 21415-2), which was developed by CEN/TC 338 'Cereal and cereal products' in collaboration with ISO.

Furthermore, CEN's Technical Committee 'Milk and milk products - Methods of sampling and analysis' (CEN/TC 302) will continue working on standardized test methods to determine the presence of chemicals in dairy products.

In the area of feed safety, CEN's Technical Committee 'Animal feeding stuffs - Methods of sampling and analysis' (CEN/TC 327) will continue developing test methods in response to requests from the European Commission (EC Mandates 521, 522 & 523). In particular, CEN/TC 327 will cooperate with ISO on revising the standard for determining tryptophan content in animal feeding stuffs (EN ISO 13904).

OTHER STANDARDS AND ACTIVITIES TO BE DEVELOPED IN 2015

Cocoa - CEN's Technical Committee on 'Sustainable and Traceable Cocoa' (CEN/TC 415) will continue working on the development of standards setting out requirements for sustainability and traceability of cocoa.

Halal Food - CEN's Project Committee on 'Halal Food' (CEN/TC 425) will proceed with work to develop a European standardization deliverable that will define general principles and requirements of Halal Food in the food chain.

**Technical bodies responsible:**

12 CEN Technical Committees
(79, 85, 122, 126, 137, 158, 159, 160, 161, 162, 211, 231)

5 CENELEC Technical Committees
(31, 62, 78, 204, 216)

Standards published by CEN & CENELEC:

922 European Standards (EN/HD)
62 other deliverables (TS/TR/CWA)

Standardization requests from EC/EFTA:

M/031 - Personal Protective Equipment
M/509 - Protective textiles and personal protective clothing and equipment
M/BC/CEN/92/8 - Explosive Atmospheres

Elements of EU Work Programme 2015:

3.2.30. Safety in workplace

Further information:

www.cencenelec.eu/go/healthsafety

CEN and CENELEC develop and adopt standards in relation to Occupational Health and Safety (OHS), Personal Protective Equipment (PPE) and Explosive Atmospheres (ATEX). In these domains, CEN and CENELEC cooperate with all of the relevant stakeholders including industry representatives, equipment manufacturers and users, consumer groups and trade unions, in order to develop standards that meet the needs of everyone concerned.

Harmonized European Standards enable stakeholders such as clothing and equipment manufacturers to ensure that their products comply with the essential requirements of European legislation relating to PPE (Directive 89/686/EEC), ATEX (Directive 94/9/EC) and Noise from Outdoor Equipment (Directives 2000/14/EC and 2005/88/EC).

In March 2014, the European Commission published a proposal for a new EU Regulation on Personal Protective Equipment (COM(2014) 186). This new Regulation, which will replace Directive 89/686/EEC, is aligned with the so-called 'New Legislative Framework for the marketing of products' (Decision 768/2008/EC). When it has been adopted by the European Parliament and the Council of the EU, the new Regulation will also have significant implications for standardization activities in this area.

Personal Protective Equipment

CEN has 7 Technical Committees (TCs) and CENELEC has 2 TCs that are responsible for developing standards in relation to Personal Protective Equipment (PPE). Most of the European standardization activities in this domain are linked to formal requests from the European Commission (such as EC Mandates 031 and 307), which are intended to support the implementation of the PPE Directive (89/686/EEC).

As a result of the ongoing collaboration with the international standardization organizations (ISO and IEC), many European Standards for PPE are identical to international standards. The international harmonization of standards makes it easier for equipment manufacturers to ensure that their products comply with the relevant standards, and also contributes to higher levels of safety for workers in a wide range of industries.

In 2015, CEN will publish two new European Standards setting out test methods to determine the resistance of materials to permeation by liquid or gaseous chemicals under conditions of continuous contact (EN 16523 - parts 1 & 2), developed by CEN/TC 162. CEN is also due to adopt a revised edition of the European Standard relating to 'Helmets for equestrian activities' (EN 1384), prepared by CEN/TC 158.



CEN is preparing to initiate new standardization activities in relation to protective textiles and personal protective clothing and equipment, in order to address specific needs that have been identified in the framework of EC Mandate 509. CEN/TC 122 'Ergonomics' and CEN/TC 248 'Textiles and textile products' are likely to be involved in this work.

CEN and CENELEC may establish a new Technical Committee to deal with horizontal aspects of Personal Protective Equipment and Systems, such as the integration of electronic components and the compatibility of products that are used together ('ensembles').

CEN will also seek to clarify the current standardization needs in relation to anchor devices that protect people who are working at height in the event of a fall. The relevant European Standard (EN 795) is reviewed on a regular basis by CEN/TC 160.



**Technical bodies responsible:**

17 CEN Technical Committees
(55, 102, 140, 170, 204, 205, 206, 215, 216,
239, 251, 258, 285, 293, 316, 362, 367)
1 CENELEC TC (CLC/TC 62)
2 CEN-CENELEC Technical bodies
(TC 3, JWG AIMD)

Standards published by CEN & CENELEC:

826 European Standards (EN/HD)
48 other deliverables (TS/TR/CWA)

Standardization requests from EC/EFTA:

M/023 - Medical Devices
M/252 - In Vitro Diagnostic Medical Devices
M/295 - Active Implantable Medical Devices
M/467 - Medical beds and cots
M/448 - Nickel release from spectacle frames

Elements of EU Work Programme 2015:

3.2.23. Healthcare services
(see also page 49)
3.2.25. Medical devices

Further information:

www.cencenelec.eu/go/healthcare

CEN and CENELEC develop European Standards setting out safety, quality and performance requirements for various kinds of medical devices, and other products and methods related to healthcare. Many of these standards support the implementation of the EU Directives dealing with Medical Devices (93/42/EEC), Active Implantable Medical Devices (90/385/EEC) and In Vitro Diagnostic Medical Devices (98/79/EC). Harmonized European Standards enable manufacturers to ensure that their products comply with the compulsory requirements that are defined in these Directives.

Within CEN and CENELEC, more than 20 Technical Committees are involved in developing standards for the healthcare sector. In order to ensure the efficient coordination of activities and the sharing of relevant information, CEN and CENELEC have created a joint Advisory Board for Healthcare Standards (ABHS). CEN also develops standards in relation to healthcare services (see the Services chapter for more information).

In 2012, the European Commission published proposals for new EU Regulations on medical devices (COM(2012) 542) and on in vitro diagnostic medical devices (COM(2012) 541). When these new Regulations have been adopted by the European Parliament and by the Council of the EU, they will replace the existing EU Directives in relation to Medical Devices.

Transport of incubators

The CEN Technical Committee 'Rescue systems' (CEN/TC 239) is working on the revision of European Standards for the transportation of incubators in ambulances (EN 13976-1 and EN 13976-2). The purpose of these standards is to guarantee a high level of uninterrupted care when infants are being transported to hospital.

The revision of EN 13976-2 (System requirements) is being undertaken in support of the Medical Devices Directive (93/42/EEC), and will allow manufacturers to demonstrate that their incubators comply with the relevant requirements of this Directive. The revised standards will be useful for ambulance manufacturers and incubator manufacturers, as well as ambulance service providers, ensuring interoperability between their respective products and protecting the health and safety of young patients.



OTHER STANDARDS AND ACTIVITIES TO BE DEVELOPED IN 2015

Chemical disinfectants and antiseptics - CEN/TC 216 'Chemical disinfectants and antiseptics' will continue work to develop, revise and amend European Standards on various methods for testing and measuring the effectiveness of chemical disinfectants and antiseptics against bacteria, fungi, viruses and/or yeast infections (including EN 13697, EN 13727, EN 14476, EN 14675, EN 16615 and EN 16777).

Dentistry - CEN/TC 55 'Dentistry' cooperates with ISO to adopt a series of standards in relation to dentistry materials such as Ceramic materials (EN ISO 6872), Endodontic instruments (EN ISO 3630-3) and Jacquette scalers (EN ISO 13397-5).

Electrical equipment - CENELEC is expected to adopt a revised European Standard setting out requirements for medical electrical equipment and medical electrical systems used in the home healthcare environment (EN 60601-1-11 developed by IEC/TC 62 in close collaboration with CLC/TC 62).

Eyes and vision - CEN/TC 170 'Ophthalmic optics' will continue collaborating with ISO on the revision of EN ISO 10938, which sets out specifications for chart displays (printed, projected and electronic) that are used for measuring visual acuity, and also to adopt a revised version of EN ISO 15004-2, which sets out requirements for light hazard protection of ophthalmic instruments.

General aspects - CEN and CENELEC's joint Technical Committee 'Quality management and corresponding general aspects for medical devices' (CEN-CLC/TC 3) will continue working in collaboration with ISO and IEC on standards for small-bore connectors for liquids and gases in healthcare applications (EN ISO/IEC 80369 series)

In vitro diagnostic medical devices (IVDs) - CEN/TC 140 'In vitro diagnostic medical devices' will continue working to develop Technical Specifications relating to pre-examination processes for blood (CEN/TS 16835 series), snap frozen tissue (CEN/TS 16826 series), FFPE (formalin-fixed paraffin embedded) tissue (CEN/TS 16827 series), and metabolomics in urine, serum and plasma.

Surgical implants - CEN/TC 285 'Non-active surgical implants' will continue collaborating with ISO on developing, revising and amending standards for: Cardiovascular implants (EN ISO 5840 series, EN ISO 12417-1, EN ISO 25539-1 and EN ISO 7198), Mammary implants (EN ISO 14607), and Joint replacement implants for hips (EN ISO 21535:2009/prA1) and knees (EN ISO 21536:2009/prA2).

Furthermore, CEN is expected to develop and/or publish standards in relation to single-use medical gloves (EN 455-2 and EN 455-3 developed by CEN/TC 205) and the communication of electronic health records (EN ISO 13606 series developed by CEN/TC 251 in cooperation with ISO).


Technical bodies responsible:

10 CEN Technical Committees
(224, 225, 247, 287, 310, 353, 365, 428, 434)
11 CENELEC Technical Committees
(13, 59X, 65X, 79, 100X, 205, 209, 215, 46X,
86A, 86BXA)
2 CENELEC Sub-Committees (9XA, 205A)
7 CEN Workshops (ICT-Skills, BII, eBES,
GITB3, XFS, J-XFS, RACS)
1 CEN-CENELEC Workshop (EGNOSDK)

Standards published by CEN & CENELEC:

131 European Standards (EN/HD)
298 other deliverables (TS/TR/CWA)

Standardization requests from EC/EFTA:

M/436 - Radio frequency identification (RFID)
M/460 - Electronic signatures

Elements of EU Work Programme 2015:

3.3. Digital Agenda for Europe
3.3.2. Radio frequency identification (RFID)
3.3.3. eSkills and eLearning
3.3.6. Electronic identification and trust services
5.3. Multi-stakeholder platform for ICT
standardization

Further information:

www.cen.eu/work/areas/ICT
www.cenelec.eu/go/ICT
www.cencenelec.eu/go/ICT

Information and Communication Technologies (ICT) have a major importance in our daily lives. They are being used by all kinds of businesses and organizations to manage information, to communicate and interact with customers and suppliers, and to deliver high-quality products and services. Standards are vital for ensuring the performance, reliability, compatibility and interoperability of ICT systems, so that they work together smoothly, efficiently and securely.

CEN and CENELEC are working together to develop standards that support the development of open and competitive markets, meeting the needs of business, consumers and other stakeholders. The Technical Boards of CEN and CENELEC have set up a joint Working Group on ICT standardization (CEN-CLC/BT/WG 6), which provides input to the multi-stakeholder Platform on ICT standardization that was set up by the European Commission (DG Enterprise and Industry) in 2012.

CEN and CENELEC support a wide range of standardization activities in relation to ICT. Many of these activities relate to topics that are mentioned in the European Commission's 'Rolling Plan for European Standardisation 2013', such as: Cybersecurity and e-Privacy, e-Skills and e-Learning, e-Accessibility, e-Health, e-Procurement, e-Invoicing, e-Payments, e-Signatures, Smart Grids and Smart Meters, Smart and Sustainable Cities and Communities, Intelligent Transport Systems, Electronic road-toll services and Advanced Manufacturing.

Due to the increasing overlap and convergence between standardization activities in the ICT field and other sectors of standardization activity in CEN and CENELEC, many of the above-mentioned topics are also mentioned in other chapters of this Work Programme.



Electronic invoicing

CEN is due to start work on developing a European Standard on electronic invoicing, which would be suitable for public procurement (i.e. purchasing by public authorities) and could also be used by businesses across all sectors of economic activity. This work will be undertaken by CEN/TC 434 'Project Committee - Electronic Invoicing' with the participation of experts representing the interests of all the relevant stakeholders.

The EU Directive on electronic invoicing in public procurement (2014/55/EU), which was published on 16 April 2014, confirms the need for a European Standard on electronic invoicing. The Directive states that such a standard should be technologically neutral, compatible with relevant international standards, and suitable for business-to-business (B2B) transactions. It should enable the protection of personal data and facilitate the payment of Value Added Tax. It should also take into account the special needs of small and medium-sized enterprises (SMEs) as well as of local and regional public authorities.

The new European Standard will draw on existing documents, including the following CEN Workshop Agreements: CWA 16356-1:2011 'Guide for a European CORE INVOICE data model with UN/CEFACT CII Implementation Guideline - Part 1: Introduction' and Annex B of CWA 16562:2012 'Business Interoperability Interfaces for public procurement in Europe - Post award profiles', which describes the elements of an electronic invoice.

eSkills and eLearning

To be successful in the global economy, companies and organizations need benchmarks against which to assess the ICT-related skills of their (current and potential) employees. Standardized definitions of skill levels are useful for various stakeholders such as: managers and Human Resources departments in companies and other organizations (in both the public and private sectors), training providers and educational institutions (including higher education), as well as for researchers and policy-makers.

The European e-Competence Framework (e-CF) has been developed since 2003 by the CEN Workshop on 'ICT Skills', which brought together experts representing the ICT Industry, the education sector and professional associations. In 2014, CEN published the 'European e-Competence Framework Version 3.0' (CWA 16234) in 4 parts. Part 1 provides a common European framework for ICT Professionals in all industry sectors, based on a series of 40 competences related to the use of ICT in the workplace.

CEN's work in relation to e-Competences is in line with the European Commission's efforts in relation to 'New Skills for New Jobs', which is a key element of the EU employment strategy. The 'European e-Competence Framework (e-CF) enables the sharing of a common understanding on digital skills. It supports the development of ICT curricula and improved recognition of qualifications in the ICT field across Europe.

In 2015, CEN's Project Committee on 'e-competences and ICT Professionalism' (CEN/TC 428) will continue working on the development of a European Standard 'e-Competence Framework (e-CF) - Part 1: Framework', which is based on the CEN Workshop Agreement 'European e-Competence Framework Version 3.0 - Part 1' (CWA 16234-1).



OTHER STANDARDS AND ACTIVITIES TO BE DEVELOPED IN 2015

Cloud computing - The CEN Workshop 'Recommendations for Assurance in Cloud Security' (CEN/WS RACS) is due to finalize two publications: the first will set out requirements and controls in relation to the information security management system ISO 27001:2013; while the second will outline a set of requirements for future security control frameworks in a certification context. These deliverables are based on the results of the European Research Project CIRRUS (Certification, InteRnationalisation and standaRdization in cloUd Security) – supported by the EU's FP7 programme.

e-Procurement - The CEN Workshop on Business Interoperability Interfaces for public procurement in Europe (CEN WS/BII) was launched in 2007, and started the 3rd phase of its work in 2013. During 2015, CEN WS/BII will continue to work on the development of pre-award and post award e-procurement specifications.

e-Signatures - CEN's Technical Committee 'Personal identification, electronic signature and cards and their related systems and operations' (CEN/TC 224) is developing European Standards in relation to 'Protection profiles for signature creation and verification application' (EN 419111 – parts 1 to 5).

Identification cards - CEN will publish revised editions of two European Standards relating to surface transport applications of identification card systems (EN 1545 - parts 1 and 2), which have been developed by CEN/TC 224.

Spatial data - CEN's Technical Committee 'Geographic Information' (CEN/TC 287) is due to finalize another Technical Report on the series on 'Spatial data infrastructures (SDI)'. Part 5 of CEN/TR 15449 will provide guidance for validation and testing of data, metadata and services, as the main Spatial Data Infrastructure (SDI) components defined in other parts of CEN/TR 15449, which were published in 2012 and 2013.



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Machinery

CEN and CENELEC have more than 60 Technical Committees that are developing European Standards in relation to machinery of various kinds. The members of these TCs include experts from industry (manufacturers) alongside representatives of national health and safety institutes and other interested stakeholders.

The standards adopted by CEN and CENELEC include more than 750 'harmonized standards', which enable manufacturers and operators to ensure that their machinery conforms to the essential safety requirements of relevant European legislation, such as the Directives on Machinery (2006/42/EC) and Lifts (95/16/EC). They also facilitate the process of assessing whether a particular machine complies with these directives.

Around half of all European Standards in the Machinery sector are identical to international standards, as a result of the close collaboration between CEN and CENELEC and their international counterparts (ISO and IEC). The global alignment of standards facilitates the access of European manufacturers to international markets, and also means that customers around the world can benefit from high levels of safety and performance.

Technical bodies responsible:

60 CEN Technical Committees
7 CENELEC Technical Committees

Standards published by CEN & CENELEC:

1054 European Standards (EN/HD)
37 other deliverables (TS/TR/CWA)

Standardization requests from EC/EFTA:

M/396 - Machinery (open mandate)
M/471 - Machinery for pesticide application
M/498 - Standards for pumps

Elements of EU Work Programme 2015:

3.2.9. Safety of offshore machinery

Further information:

www.cencenelec.eu/go/machinery



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Machinery



Agricultural machinery

CEN's Technical Committee 'Tractors and machinery for agriculture and forestry' (CEN/TC 144) produces a wide range of standards that ensure the safety and performance of machines used in the agricultural and forestry sectors.

CEN/TC 144 collaborates with ISO on the development of standards in relation to environmental requirements for crop sprayers used to apply pesticides, with the aim of minimizing the risk of environmental contamination. These standards have been requested by the European Commission (EC M/471). Part 5 of the EN ISO 16119 series, to be developed in 2015, will specify requirements and methods for the design and performance of aerial application platforms including fixed wing and rotary aircraft platforms.

CEN will continue to cooperate with ISO on finalizing a series of standards relating to the 'Inspection of sprayers in use' (EN ISO 16122 - parts 1 to 4). CEN/TC 144 is also preparing revised versions of the European Standards that relate to the 'protection of the operator (driver) against hazardous substances' (EN 15695 parts 1 and 2).

OTHER STANDARDS AND ACTIVITIES TO BE DEVELOPED IN 2015

Offshore machinery - CEN and CENELEC continue to develop and revise standards that are used by the oil and gas industries, in close cooperation with their international counterparts ISO and IEC. Much of the work in this area is done by CEN/TC 12 'Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries'.

Alongside the standardization activities that it carries out in collaboration with ISO, CEN/TC 12 is also developing a new European Standard (EN 16808) that specifies general safety requirements for the design, testing and production of manually operated elevators, as used by the petroleum, petrochemical and natural gas industries.

Lifts - CEN's Technical Committee 'Lifts, escalators and moving walks' (CEN/TC 10) is due to finalize a revised edition of the European Standard regarding requirements for firefighters' lifts (EN 81-72). CEN/TC 10 is also working on a revised version of the standard that deals with the behaviour of lifts in the event of fire (EN 81-73).

Road sweepers - CEN is due to publish new European Standards in relation to road sweepers, for testing and evaluation the efficiency of particulate matter collection (EN 15429-3) and symbols for operator controls and other displays (EN 15429-4).

CEN/TC 337 'Road operation equipment and products' is also developing European Standards in relation to 'Road service area maintenance equipment' (EN 15436 series) and winter maintenance equipment, including 'Road weather information systems' (EN 15518 series), 'Spreading machines (gritting machines)' (EN 15597 series) and 'De-icing agents' (EN 16811 series).



CEN develops standards in relation to a wide range of materials from metallic alloys to textile products. Some of these are harmonized standards that support the implementation of the EU's Construction Products Regulation (CPR). CEN also develops standards in relation to nanotechnologies and nanomaterials, which is an area of growing importance that has been identified as a Key Enabling Technology by the European Commission.

Standards in relation to Iron and steel are developed by the European Committee for Iron and Steel Standardization (ECISS), which is managed by the Coordinating Commission for the Nomenclature of Iron and Steel Products (COCOR). ECISS is an Associated Standards Body of CEN that is linked to CEN for administrative and legal purposes

Technical bodies responsible:

14 CEN Technical Committees
(132, 133, 137, 138, 172, 184, 195, 209, 230, 248, 249, 289, 306, 352)
European Committee for Iron and Steel Standardisation (ECISS)

Standards published by CEN & CENELEC:

429 European Standards (EN/HD)
43 other deliverables (TS/TR/CWA)

Standardization requests from EC/EFTA:

M/461 - Nanotechnologies and nanomaterials

Elements of EU Work Programme 2015:

3.1.2. Key Enabling Technologies (KETs)
3.1.3. Construction and raw materials
3.1.3.1. Steel

Further information:

www.cen.eu/work/areas/materials
www.cen.eu/work/areas/nanotech

Nanotechnologies and nanomaterials

Nanotechnology refers to science, engineering, and technology conducted at the nanoscale (in the range from 1 to 100 nanometers). Nanotechnologies make possible the development of materials, devices and systems with novel properties, functions and performances. Nanomaterials may exhibit properties such as increased strength, chemical reactivity or conductivity, and therefore offer significant potential for the development of innovative new products.

Nanotechnologies and nanomaterials are being applied and used in many different areas such as: aerospace, chemical engineering and materials (plastics and composites, rubber, ceramics, metal alloys), energy production and storage (solar panels, batteries), environmental protection and management, healthcare and consumer products (cosmetics, sunscreens, toothpaste, food and beverages), ICT, manufacturing (tyres, textiles), and transport (electric vehicles).

The European Commission has identified nanotechnologies and nanomaterials as a Key Enabling Technology (KET) that is essential for Europe's economy, and has requested the European Standardization Organizations to develop standardization activities in this area. EC Mandate 461 covers: methodologies for nanomaterial characterization; sampling and measurement of exposure to nanomaterials; methods to simulate exposures to nanomaterials; HS&E (health, safety and the environment).

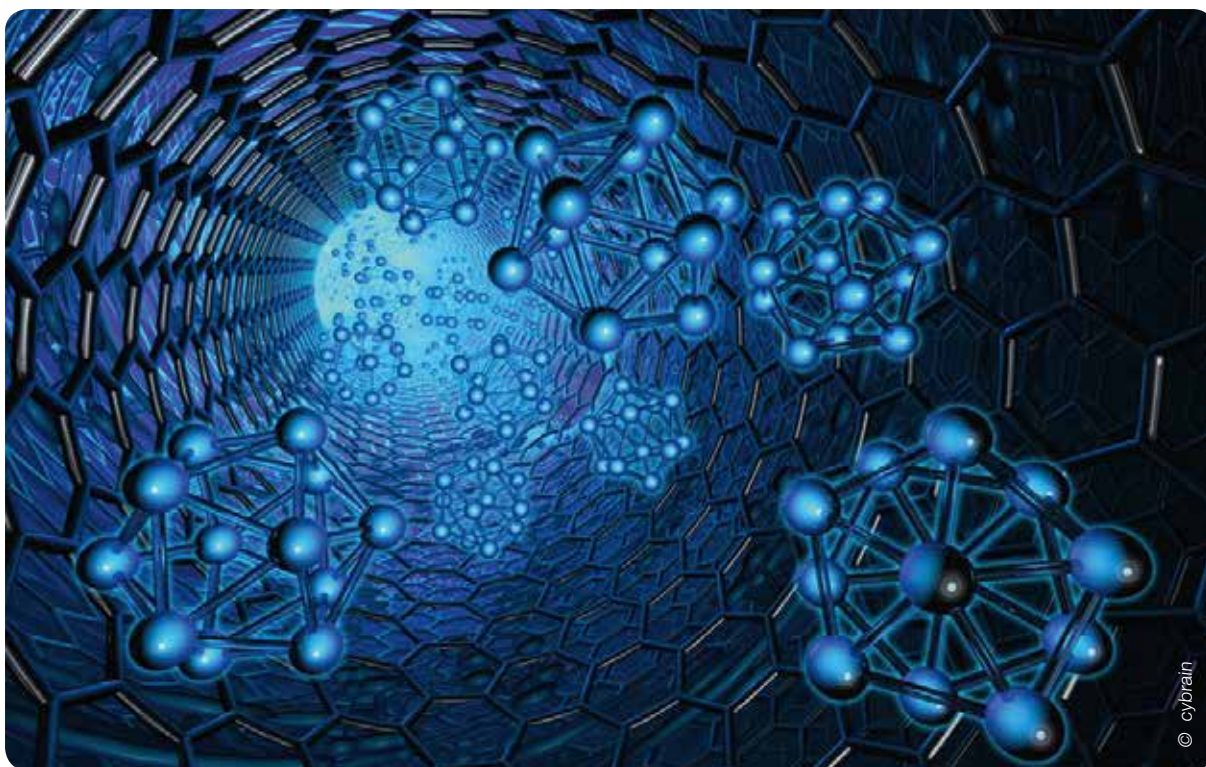


In the framework of EC M/461, CEN has undertaken to develop a series of deliverables by the end of 2018 (including 9 European Standards and 7 Technical Specifications). This work is being coordinated by the Technical Committee on 'Nanotechnologies' (CEN/TC 352). Several other Technical Committees both at European level (CEN) and at international level (ISO and IEC) are directly involved in related standardization activities.

CEN/TC 352 is developing Technical Specifications in relation to various aspects of nanotechnologies, nanomaterials and manufactured nano-objects.

CEN/TC 137 'Assessment of workplace exposure to chemical and biological agents' is developing a number of standards dealing with issues related to workplace exposure, including ultrafine aerosols and nano-aerosols, inhalation of nano-objects, dustiness of bulk nanomaterials, and dermal exposure to manufactured nanoparticles.

CEN/TC 195 'Air filters for general air cleaning' is developing standardized test methods to measure the efficiency of air filtration media against spherical nanomaterials.



OTHER STANDARDS AND ACTIVITIES TO BE DEVELOPED IN 2015

Ceramics - CEN/TC 184 'Advanced technical ceramics' will continue to collaborate with ISO on the adoption and revision of relevant standards. In 2015, CEN is expected to adopt 15 ISO Standards as European Standards, as well as 3 Technical Specifications.

Graphene - CENELEC is setting up a new Workshop on Specifications for Graphene Related Material (CENELEC WS SGRM), which is due to start work in 2015. Graphene is a single layer of carbon atoms that provides remarkable strength and conductivity.



Measuring Instruments

In the field of measuring instruments, CEN and CENELEC produce standards and other standardization deliverables that are used to ensure the accurate measurement of electricity, gas, heat and water consumption. These standards are essential tools for commercial transactions and help to protect European consumers and businesses.

Accurate measuring instruments that can communicate digitally are key components of many emerging technologies such as smart meters and smart grids. Intelligent measuring instruments also have an important role to play in helping to raise the awareness of companies and consumers with regard to their consumption of valuable resources, and thereby promoting environmental responsibility.

European Standards developed by CEN and CENELEC incorporate essential requirements that have been defined in the framework of the Measuring Instruments Directive (MID - 2004/22/EC). This important EU legislation covers 10 categories of measuring instruments and mainly addresses precision, reliability and security of instruments. Standards developed in compliance with the MID are recognized as 'harmonized' standards and cited in the Official Journal of the European Union (OJEU).

Technical bodies responsible:

6 CEN Technical Committees
(92, 171, 176, 237, 294, 318)
CLC/TC 13 - Electrical energy measurement and control

Standards published by CEN & CENELEC:

81 European Standards (EN/HD)
8 other deliverables (TS/TR/CWA)

Standardization requests from EC/EFTA:

M/347 - Measuring instruments (programming)
M/374 - Measuring instruments (standardization)
M/412 - Non-automatic weighing instruments
M/441 - Open architecture for utility meters
M/457 - Tyre pressure gauges / management systems

Elements of EU Work Programme 2015:

3.2.26. Measuring instruments

Further information:

www.cencenelec.eu/go/mis



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Gas meters

CEN's Technical Committee 'Gas meters' (CEN/TC 237) has developed a revised version of the European Standard on 'Diaphragm gas meters' (EN 1359), which is due to be adopted by CEN in 2015. This standard specifies requirements and tests for the construction, performance, safety and production of diaphragm gas meters. It creates a level playing field for meter manufacturers and it also brings benefits to gas consumers.

The revised edition of EN 1359 has been requested by the European Commission (EC M/374) in the framework of the Measuring Instruments Directive (MID - 2004/22/EC).

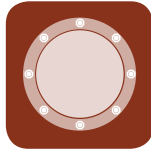
CEN/TC 237 is also engaged in other work, including the revision of the European Standard on 'Rotary displacement gas meters' (EN 12480) and the development of a new draft standard prEN 12405-3 'Gas meters - Conversion devices - Part 3: Flow computer'.

OTHER STANDARDS AND ACTIVITIES TO BE DEVELOPED IN 2015

Communication systems - CEN/TC 294 'Communication systems for meters and remote reading of meters' is developing a series of European Standards in relation to 'Communication systems for meters - Wireless mesh networking for meter data exchange' (EN 16836 - parts 1-3). This TC is also working on the revision of existing European Standards including EN 13757-5 (Wireless M-Bus relaying), EN 13757-6 (Local Bus) and EN 1434-3 (Heat Meters - Part 3: Data exchange and interfaces).

Electricity meters - CENELEC's Technical Committee 'Equipment for electrical energy measurement and load control' (CLC/TC 13) is developing 5 European Standards (EN 62056 series) and 5 Technical Specifications (CLC/TS 50568 and CLC/TS 52056 series) in relation to 'Electricity metering data exchange - The DLMS/COSEM suite', and another Technical Specification on 'Electricity metering data exchange - Lower layer PLC profile using adaptive multi-carrier spread spectrum for CX1 networks' (CLC/TS 50590).

Heat meters - CEN/TC 176 is currently revising the EN 1434 series of European Standards for heat meters. These standards relate to general requirements (Part 1), constructional requirements (part 2), pattern approval tests (Part 4), initial verification tests (Part 5), installation, commissioning, operational monitoring and maintenance (Part 6).



Pressure Equipment

The pressure equipment sector covers a wide range of products from consumer products such as pressure cookers and portable fire extinguishers through to major industrial applications such as reactors, columns, boilers, steam generators, heat exchangers, industrial piping and safety devices for the power generation, food, chemical, pharmaceutical, oil and gas sectors.

CEN provides a platform for industry experts to develop European Standards that contribute to ensuring high levels of safety in relation to pressure. Many of these are harmonized standards, which are intended to support the implementation of the EU Directives relating to Pressure Equipment (97/23/EC and 2014/68/EU) and Simple Pressure Vessels (2009/105/EC).

Within CEN there are 29 Technical Committees (TCs) involved in standardization work related to pressure equipment. In addition, there are another four Technical Committees of ECISS (European Committee for Iron and Steel Standardization), which is an Associated Standards Body linked to CEN. The work of the various TCs is coordinated by a group called the 'Pressure Equipment Advisory Nucleus' (CEN/PEAN).

CEN continues to support ongoing standardization activities in relation to pressure equipment, including the regular revision and maintenance of more than 190 European Standards that support the EU's Pressure Equipment Directive (97/23/EC). Current work includes the revision of standards in relation to Water-tube boilers (EN 12952 series) and Shell boilers (EN 12953 series), as well as the development and revision of standards for Flanges, Pressure testing and Creep (how materials respond to stress).

As well as developing and revising European Standards, CEN also collaborates with ISO on the development of international standards addressing pressure-related risks in relation to a wide range of products, materials and methods. By using European and international standards, companies and organizations can benefit from higher levels of safety, performance and efficiency.

Technical bodies responsible:

29 CEN Technical Committees
(23, 47, 54, 57, 58, 69, 70, 74, 79, 121, 131, 132, 133, 138, 155, 181, 182, 185, 190, 194, 210, 235, 237, 267, 268, 269, 286, 326, 342)
European Committee for Iron and Steel Standardisation (ECISS)

Standards published by CEN & CENELEC:

441 European Standards (EN/HD)
22 other deliverables (TS/TR/CWA)

Standardization requests from EC/EFTA:

M/071 - Pressure equipment

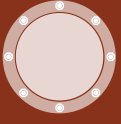
Elements of EU Work Programme 2015:

3.2.27. Pressure equipment

Further information:

www.cen.eu/go/pressure





Promoting European Standards

While CEN continues to support ongoing standardization activities in relation to pressure equipment, CEN's Pressure Equipment Advisory Nucleus (CEN/PEAN) has identified that there is a clear need to make concerted efforts in order to inform and educate the manufacturers and operators of pressure equipment and other stakeholders regarding the importance and value of applying European Standards.

CEN will actively promote the use of European Standards by means of seminars and other actions, and it will encourage stakeholders to participate in European standardization activities through the National Standardization Bodies that are Members of CEN. These efforts will make use of information materials including the CEN brochure 'European Standards in relation to pressure equipment' (published in November 2014).

In order to make European Standards easier to use and understand, CEN/PEAN is investigating possible actions that would contribute to improving the readability of standards in relation to pressure equipment. One such action would be to classify different types of changes during the revision process, so that users can clearly see the differences between the revised version and the previous edition of each standard.

Furthermore, CEN intends to develop dialogue and cooperation with standardization organizations in Europe's key trading partners, such as China and India, with a view to promoting the adoption by third countries of standards in relation to pressure equipment that are identical to European Standards. This would lead to improvements in terms of safety and performance, and would make it easier for European companies to sell their products around the world.

OTHER STANDARDS AND ACTIVITIES TO BE DEVELOPED IN 2015

Test methods - The availability of reliable non-destructive test techniques (such as computed radiography, phased array, time-of-flight diffraction and acoustic emission) will increasingly be taken into account during the development and revision of European Standards related to pressure equipment.



Research and Innovation

Standardization can help to bridge the gap between research, innovation and the market, for example by codifying and disseminating the results of relevant research, development and innovation activities. In this way, standards can support the process of bringing new ideas and technologies to market.

European standardization has an important contribution to make towards achieving the objectives of the 'Innovation Union' initiative, that has been launched by the European Commission as part of the Europe 2020 Strategy. Standardization is especially relevant in the context of 'Horizon 2020' – the European Union's multi-annual programme which supports research, development and innovation projects.

CEN and CENELEC work closely with the European Commission and other partners to promote the idea of an "integrated approach" so that possible links with standardization are addressed during the planning and development of research and innovation activities.

CEN and CENELEC provide a Research Helpdesk which provides advice and support to those responsible for preparing and implementing research and innovation projects. At national level, the members of CEN and CENELEC provide a network of national Research, Development and Innovation Correspondents (known as RDI-COR) with 31 national contact points in 26 countries.

Advisory body responsible:

CEN-CENELEC Working Group on Standardization, Innovation and Research (STAIR)

Elements of EU Work Programme 2015:

3.1. Innovation and new technologies
5.4. Horizon 2020

Further information:

www.cencenelec.eu/research

CEN and CENELEC's activities in relation to research and innovation are coordinated by the CEN-CENELEC Working Group on Standardization, Innovation and Research (STAIR). These include activities that focus on encouraging closer cooperation between researchers and standardizers at national level (such as the 'Bridge the Gap' project), and other activities at European level including 'bridging platforms' (such as the 'STAIR-EMPIR' initiative), which focus on specific sectors or technologies.

As part of their continuing efforts to promote collaboration between the scientific and standardization communities, CEN and CENELEC cooperate with the Joint Research Centre (JRC) of the European Commission and with the European Association of Research and Technology Organisations (EARTO). This includes the organization of joint workshops addressing topics of common interest, which are held annually.

'Bridge the Gap'

'Bridge the Gap' (BRIDGIT) is the name of a two-year project that was launched in 2013. The project partners include CEN and CENELEC alongside 9 of their national members, supported by the European Commission and EFTA. The aim of the project is to highlight the various ways in which standardization can support innovation, and reinforce the links between the standardization, research and innovation communities.

During the implementation of this project, various examples of good practice have been identified and shared with stakeholders. Training and awareness-raising actions have been organized including several national events and a large scale European conference 'Standards: Your Innovation Bridge', held in Brussels on 30 October 2014.



The 'Bridge the Gap' project is due to end in March 2015, and a number of publications and other deliverables are due to be finalized. These will include a brochure, videos and other training materials aimed at decision-makers, managers and staff of national standardization organizations, in order to help them establish and develop links with the innovation and research communities in their countries. Specific advice will be provided to CEN and CENELEC members on how to organize seminars and awareness-raising events.

A specific publication will be produced for the National Contact Points (NCPs), who are responsible for providing researchers and innovators with practical information and assistance on all aspects of participation in 'Horizon 2020'. There will also be a separate brochure aimed at the research and innovation community, especially intended for managers in research institutes and companies that undertake research, development and innovation activities, who may have little or no prior knowledge of standardization.

'STAIR-EMPIR'

CEN and CENELEC have decided to strengthen their cooperation with EURAMET, the European Association of National Metrology Institutes, by further developing the 'STAIR-EMPIR' initiative, which was launched in 2014. This initiative aims to reinforce the links between metrological research and standardization activities, notably in the framework of the European Metrology Programme for Innovation and Research (EMPIR).

STAIR-EMPIR provides a forum for sharing expertise between the standardization and metrology communities, and discussing strategic issues of common interest. It enables stakeholders from CEN and CENELEC and from EURAMET to identify areas where metrology research could contribute to standardization activities, in line with specific needs identified by technical bodies of CEN and CENELEC.

In 2015, STAIR-EMPIR will facilitate interaction and cooperation between standardizers and metrology researchers, and seek to establish links between specific needs that have been identified by technical bodies of CEN and CENELEC and particular projects to be supported in the framework of the EMPIR programme.

Building on the experience of their successful cooperation with EURAMET, CEN and CENELEC will engage in dialogue with other European stakeholders with a view to establishing new 'bridging platforms' between researchers and standardizers. The aim of such platforms would be to enable and support closer collaboration between researchers and standardizers in relation to specific sectors or technologies.



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OTHER ACTIVITIES TO BE DEVELOPED IN 2015

Training for Technical Bodies - As part of their ongoing efforts to strengthen the links between standardization, research and innovation, CEN and CENELEC are determined to ensure that their technical bodies are able and willing to work with researchers and innovators. To this end, CEN and CENELEC will develop and organize training sessions for chairmen, secretariats, convenors and experts who regularly participate in their Technical Committees and Working Groups.

The aim of these training sessions will be to make technical body officers and experts more conscious of the positive contribution that research and innovation activities can make to standardization activities, and provide them with specific information regarding the 'Horizon 2020' programme and examples of best practice identified by the 'Bridge the Gap' project.

**Technical bodies responsible:**

7 CEN Technical Committees
(319, 320, 329, 331, 348, 395, 431)
15 CEN Project Committees
(381, 394, 403, 404, 405, 409, 412, 414, 417,
419, 420, 424, 427, 432, 435)
1 CEN-CENELEC Project Committee
(CEN-CLC/TC 4)

Standards published by CEN & CENELEC:

57 European Standards (EN/HD)
34 other deliverables (TS/TR/CWA)

Standardization requests from EC/EFTA:

M/428 – Standards for postal services
and equipment
M/516 – Standards for interpretation services
M/517 – Horizontal service standards

Elements of EU Work Programme 2015:

2.5. Postal services
3.2. Strengthening the internal market
3.2.22. Safety of specific services
3.2.23. Healthcare services

Further information:

www.cen.eu/work/areas/services

Standardization is increasingly being used to support the development of a single market for services within Europe. The creation and use of European Standards for services also contributes to fostering cross-border trade, improving safety and performance and ensuring the protection of consumers and the environment.

Standards provide benchmarks against which businesses can measure the quality and performance of the services they are providing and/or purchasing, thus improving transparency, enhancing competitiveness and increasing efficiency. Service standards are useful tools for defining common terminology, sharing best practices and spreading knowledge among providers, purchasers and users of services.

Standardization has a key role to play in supporting the creation of a single market for services in Europe. The EU Directive on Services (2006/123/EC) encourages the development of European standards to facilitate compatibility between services, ensure the quality of service delivery and the provision of information to service users.

In the area of postal services, CEN is developing European Standards and other deliverables (Technical Reports and Technical Specifications) that are intended to support the implementation of the relevant EU Directives (97/67/EC, 2002/39/EC and 2008/6/EC).

Within CEN, the Strategic Advisory Group on Services (CEN/BT/WG 214 - 'SAGS') acts as an advisory and coordination body on policy and strategic matters in relation to the standardization of services.



Horizontal Service Standards

In 2013, CEN accepted a request from the European Commission (EC Mandate 517) for the programming and development of horizontal service standards. Horizontal standards refer to standards covering aspects that are common to many different kinds of services, such as information to customers, complaints and redress procedures, etc.

During the programming phase (Phase 1) of M/517, which was completed in November 2014, CEN identified a number of needs in terms of horizontal service standards that could be developed in order to facilitate the cross-border provision and purchasing of services, whilst also ensuring the quality of the services provided.

In 2015, CEN will start implementing Phase 2 of M/517, by proceeding with the development of horizontal service standards that correspond to the needs identified during Phase 1. It is expected that the Technical Board of CEN (CEN/BT) may establish a new Technical Committee that would be responsible for this work.

When they have been finalized and published, the standards to be developed in the framework of M/517 should contribute to expanding the cross-border provision of services within Europe. They should also enhance transparency and help service providers to improve their performance, leading to increased levels of customer satisfaction.

In parallel with the work being carried out in the framework of M/517, CEN's Project Committee 'Service Excellence Systems' (CEN/TC 420) has been developing a document that sets out 'requirements and guidelines for service excellence systems in order to achieve customer delight'. This document, which is due to be finalized and adopted as a CEN Technical Specification in 2015, will be the first horizontal deliverable in relation to services ever adopted by CEN at European level.

Healthcare Services

The adoption and application of suitable standards can bring important benefits for healthcare professionals and also for the users of healthcare services (patients). Standards provide benchmarks and frameworks that enable healthcare providers to improve the quality of their services, and can thereby help to ensure that patients seeking care in another European country benefit from high levels of quality and safety.

Recent years have seen the increasing mobility of patients and healthcare professionals between different European countries, which has led to greater levels of interest in and demand for the standardization of healthcare services. The EU Directive on patients' rights in cross-border healthcare (2011/24/EU) clarifies the rules on access to healthcare services throughout the European Union, including reimbursement.

In 2014, an ad-hoc group on healthcare services was created by SAGS (CEN/BT WG 214) and the CEN-CENELEC Advisory Board for Healthcare Standards (ABHS). The aim of this group is to take stock of the standardization done so far at European level, identify areas where European standards can add value to healthcare services and develop a common strategy on how to approach European standardization and stakeholders in relation to healthcare services. The conclusions should be available by the end of 2015.



In 2015, CEN is expected to adopt a new European Standard in relation to 'Osteopathic healthcare provision' (EN 16686), which was developed by CEN/TC 414 (Services in Osteopathy), as well as a Technical Report on 'Early care services for babies born with cleft lip and/or palate' (CEN/TR 16824), developed by CEN/TC 424.

CEN will launch a public enquiry on a draft European Standard for non-surgical aesthetic medical procedures (prEN 16844), which has been developed by CEN/TC 403 (Aesthetic surgery and aesthetic non-surgical medical services).

CEN/TC 427 (Services of Medical Doctors with additional qualification in Homeopathy) will produce a draft standard on 'Requirements for Health care provision by Medical Doctors with additional Qualification in Homeopathy' (prEN 00427001) for public enquiry.

Security Services

European Standards can be effective tools for defining key quality criteria to be considered when purchasing various kinds of services, including security services. The use of such standards can facilitate cross-border competition in the provision of private security services, and also contribute to improving the professionalism of the sector.

Within CEN and CENELEC, a number of Project Committees are developing standards in relation to security services, and this work will continue in 2015:

- CEN-CLC/TC 4 (Services for fire safety and security systems) will submit for formal approval a draft standard on 'Services for fire safety and security systems' (prEN 16763).
- CEN/TC 417 (Maritime and port security services) will finalize a European Standard on 'Maritime and port security services' (EN 16747).
- CEN/TC 419 (Forensic science processes) will submit 2 draft European Standards for public enquiry relating to 'Crime scene, exhibit handling and control' and 'Delivery of results through the processes of forensic science examinations'.

A new Technical Committee encompassing all civilian security services is due to be launched by CEN in February 2015. This new TC will also be tasked to consider the revision of standards relating to 'Security service providers - Terminology' (EN 15602) and 'Airport and aviation security services' (EN 16082).



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OTHER STANDARDS AND ACTIVITIES TO BE DEVELOPED IN 2015

Customs representatives - CEN/TC 432 will proceed with developing a standard that identifies and describes competency requirements which are needed by customs representatives. The availability of such a standard should contribute to enhancing the professional status and recognition of customs representatives in Europe.

Pest management - CEN is due to adopt a new European Standard setting out requirements of pest management services including the competence of the personnel (EN 16636), developed by the Project Committee CEN/TC 404.

Postal services - CEN/TC 331 'Postal Services' will proceed with preparing various European Standards and other deliverables, including a revised edition of EN 14534 'Measurement of the transit time of end-to-end services for bulk mail'.

Following the completion of standardization work in relation to postal services and equipment under EC M/428, CEN will discuss with the European Commission possible needs for new or revised standards to support the implementation of the 'Roadmap for completing the single market for parcel delivery' (published in December 2013).

Tattooing services - CEN/TC 435 will proceed with work to develop a European Standard that sets out requirements related to the hygienic performance of tattooing services. The draft standard will address aspects related to job specification, training, facilities, personal hygiene and aftercare, as well as instructions for the cleaning and disinfection of equipment.

**Coordination body responsible:**

CEN-CENELEC-ETSI 'Smart and sustainable cities and communities' Coordination Group (SSCC-CG)

Standards published by CEN & CENELEC:

41 European Standards (EN/HD)
6 other deliverables (TS/TR/CWA)

Elements of EU Work Programme 2015:

3.1. Innovation and new technologies
3.3.5. The Internet of Things (IoT)

Further information:

www.cencenelec.eu/go/smart

The concept of 'Smart and sustainable cities and communities' refers to an overall approach that integrates new technologies, particularly ICT (information and communication technologies), with energy, transport and the built environment. It encompasses a wide range of aspects – such as energy-efficient buildings, clean modes of transport, smart electricity grids and renewable energy sources – for which standards play an important role.

In order to ensure a consistent and holistic approach, the European Standardization Organizations (CEN, CENELEC and ETSI) have created a 'Smart and Sustainable Cities and Communities' Coordination Group (SSCC-CG). This group includes representatives of various stakeholders including national members and partner organizations of CEN and CENELEC, the international standardization organizations (ISO, IEC and ITU), networks of cities and local communities, and other interested organizations. The SSCC-CG facilitates the sharing of relevant information, advises the ESOs on interests and needs relating to standardization and enables coordination among the relevant technical bodies.

Through the SSCC-CG, the ESOs are collaborating with the ISO Technical Committee 'Sustainable development in communities' (ISO TC/268), as well as with IEC and ITU. They are also working with the European Commission, and are actively involved in the European Innovation Partnership on Smart Cities and Communities (EIP-SCC), specifically in relation to the Action Cluster 'Standards' and the online marketplace. Responding to an invitation for commitments, the SSCC-CG has put forward a proposal for the elaboration of a 'conceptual interoperability framework for smart and sustainable cities'.



Smart and Sustainable Cities and Communities

The CEN-CENELEC-ETSI 'Smart and Sustainable Cities and Communities' Co-ordination Group (SSCC-CG) will finalize and publish a report together with recommendations on how the European Standardization Organizations should develop their activities in this area. This report will draw on the results of a mapping exercise which looked at relevant standardization initiatives at national, European and international levels, as well as stakeholders and interested parties in Europe. It will identify specific topics and issues that could be addressed in the framework of new standardization activities at European and/or international level.

In 2015, the SSCC-CG intends to prepare and test a 'conceptual interoperability framework for smart and sustainable cities', which will be further refined and validated in 2016. This framework will facilitate the categorization and analysis of projects and solutions that have been implemented in different cities (case studies). The proposed framework will enable mutual learning and knowledge-sharing by enabling cities to easily identify which standards and good practices correspond to their particular needs. It should also facilitate the identification of needs and requirements that could lead to proposals for new standardization activities. Possible funding will be sought through the Horizon 2020 programme (call SCC 3-2015).



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Technical bodies responsible:

20 CEN Technical Committees
(15, 23, 119, 242, 256, 261, 268, 274, 278, 286,
296, 300, 301, 320, 326, 333, 354, 379, 393, 413)
CENELEC TC 9X Electrical and electronic
applications for railways
CEN-CENELEC-ETSI Joint Programming
Committee for Railways (JPC Rail)

Standards published by CEN & CENELEC:

901 European Standards (EN/HD)
143 other deliverables (TS/TR/CWA)

Standardization requests from EC/EFTA:

M/075 - Recreational craft
M/086 - Transport of Dangerous Goods
M/300 - Cableway installations
M/338 - Interoperability of electronic road
toll systems
M/421 - On-board diagnosis and information
management
M/453 - Intelligent Transport Systems (ITS)
M/457 - Tyre Pressure Management Systems
M/468 - Charging of electric vehicles
M/483 - Interoperability of the rail system
M/486 - Urban Rail
M/502 - Seals for Digital Tachograph

Elements of EU Work Programme 2015:

3.1.4. Clean vehicles and vessels
3.2.10. Land transport
3.2.12. Waterborne transport
3.2.14. Rail transport
3.2.29. Water transport – Recreational craft
3.3.8. Intelligent Transport Systems (ITS)

Further information:

www.cencenelec.eu/go/transport
www.cen.eu/work/areas/transport

Maintaining a safe and efficient transport system is of vital importance for Europe's economy. Many European companies are world leaders in infrastructure, logistics and manufacturing of transport equipment and traffic management systems.

CEN and CENELEC develop standards in relation to various transport modes (road, rail and maritime), and relating to horizontal topics such as interoperability, intermodal transport, intelligent transport systems (ITS) and the transport of dangerous goods.

Many of the standards developed and adopted by CEN and CENELEC in the Transport and Packaging sector respond to standardization requests that have been issued by the European Commission (EC Mandates). Some of these are 'harmonized standards' that support the implementation of relevant European legislation including the EU Directives relating to: the interoperability of Europe's rail system (2008/57/EC); cableway installations designed to carry passengers (2000/9/EC), recreational craft and personal watercraft (2013/53/EU – replacing 94/25/EC), and packaging and packaging waste (94/62/EC).





Intelligent Transport Systems

Intelligent Transport Systems (ITS) can contribute to a cleaner, safer and more efficient transport system. They use information and communication technologies (ICT) in order to control traffic flow, collect road tolls (electronic fee collection), provide timely traffic and safety information, notify accidents ('e-Call') and give priority to emergency vehicles.

The European Commission has laid down the legal framework in order to accelerate the deployment of ITS across Europe (Directive 2010/40/EU) and has requested the European Standardization Organizations to develop and adopt European Standards in support of this framework (EC M/453), in order to ensure interoperability across countries.

European standards and technical specifications in the domain of ITS are being developed by the CEN Technical Committee 'Intelligent Transport Systems' (CEN/TC 278). These standards cover a variety of aspects including: Cooperative Systems, Travel and Traffic Information, Route Guidance and Navigation, Public Transport, Emergency Vehicles and Electronic Fee Collection. CEN and CENELEC cooperate closely with ETSI and ISO in order to ensure a coherent approach to standardization on this topic.

In 2015, CEN is expected to adopt European Standards regarding the 'eCall' system, which allows the emergency services to be notified automatically in the event of a traffic accident (EN 15722 and EN 16072). It will also publish a Technical Specification relating to 'Electronic fee collection - Secure monitoring for autonomous toll systems' (CEN/TS 16702-2).

In addition, a major programming exercise will be undertaken in relation to ITS involving a wide range of relevant partners such as UITP, EUROCITIES, etc.

Railways

In the railways sector, CEN and CENELEC, together with ETSI, maintain the Sector Forum Rail (previously known as JPC Rail), which brings together representatives from the railway industry (supply industry and networks), relevant European and international organizations (such as UIC, UNIFE, UITP), Technical Committee chairs and project leaders.

Most European Standards relating to the rail transport sector are developed in the CEN Technical Committee 'Railway Applications' (CEN/TC 256) and in the CENELEC Technical Committee 'Electrical and electronic applications for railways' (CLC/TC 9X). These TCs collaborate with the European Railway Agency (ERA), in order to ensure that European Standards are compatible with the latest Technical Specifications for Interoperability (TSI).

CEN and CENELEC are currently preparing a range of standards that relate to urban rail, in response to EC Mandate 486. These standards are being developed in accordance with CEN-CENELEC Guide 26 'Preparation of standards for urban rail systems design, construction, manufacture, operations and maintenance' (published in 2013).

In 2015, CEN and CENELEC are due to publish several new and revised European Standards in relation to railway applications. These standards address various aspects including Brake blocks (EN 16452), Driver's cab (EN 16186-1), Railway track (EN 13230-6), Measurement of wheel and axle loads (EN 15654-1), Train detection systems (EN 50617 series), Electromagnetic compatibility (EN 50121 series) and Insulation coordination (EN 50124-1).



OTHER STANDARDS AND ACTIVITIES TO BE DEVELOPED IN 2015

Automotive - CEN/TC 301 'Road vehicles' will continue working on the development of a European Standard setting out interfaces and requirements to ensure interoperability between Tyre Information Systems and Tyre Pressure Gauges (EN 16661), as requested by the European Commission (M/457).

CEN/TC 301 will also continue to collaborate with ISO on the development of a standard regarding conformance testing of standardized access to automotive repair and maintenance information (RMI) (EN ISO 18541-4), as requested by the European Commission (M/421 - On-board diagnosis and information management).

Cableways - CEN/TC 242 'Safety requirements for passenger transportation by rope' is continuing to develop harmonized standards in support of the EU Directive on cableway installations designed to carry persons (2000/9/EC), in the framework of EC M/300.

Small watercraft - CEN (CEN/SS T01 Shipbuilding and maritime structures) will continue to work in collaboration with ISO/TC 188 'Small Craft' in order to review and revise the current collection of more than 55 harmonized standards in line with the requirements of the latest EU Directive on 'Recreational craft and personal watercraft' (2013/53/EU).

Transport of dangerous goods - CEN and CENELEC continue to develop and adopt standards in support of the EU Directives on the inland transport of dangerous goods (2008/68/EC) and on Transportable Pressure Equipment (2010/35/EU).

In 2015, CEN is due to adopt and publish a revised European Standard relating to the design and construction of metallic tanks (EN 13094) – developed by CEN/TC 296 'Tanks for the transport of dangerous goods'.

In relation to Liquefied Petroleum Gas (LPG), CEN will publish a revised edition of EN 13953 (Pressure relief valves for transportable refillable cylinders) and a Technical Specification regarding environmental considerations for standards in the field of LPG equipment and accessories (CEN/TS 16765) – both developed by CEN/TC 286.

International Cooperation

The main objectives of CEN and CENELEC's activities in the field of international cooperation are to enhance the global reach and competitiveness of European industry, and contribute to the reduction of technical barriers to trade worldwide.

To achieve these goals, it is necessary to foster the alignment of standards and technical specifications, especially with countries and regions that are aiming for regulatory convergence with the European Union, as this will allow businesses to benefit from reduced compliance costs and economies of scale.

In this endeavour, CEN and CENELEC give primacy to international standards that have been adopted by ISO and IEC. The high level of convergence between European and international standards* is facilitated by the ongoing technical cooperation between CEN and ISO (Vienna Agreement) and between CENELEC and IEC (Dresden Agreement).

CEN and CENELEC also promote and support the technical alignment of standards and the adoption of identical standards through dialogues, technical exchanges and partnerships with key standardization actors around the world. The aim of these contacts is to increase awareness and understanding of the European standardization model, and facilitate the alignment of positions and the harmonization of standards at international level.

** Some 31% of standards in the CEN portfolio are identical to ISO publications, while 78% of standards in the CENELEC portfolio are identical to (or based on) IEC publications.*

Coherence of European and international standards

CEN and CENELEC are determined to increase the level of coherence between European and international standards, while ensuring a strong European lead in key sectors. This will be achieved by further improving policy coordination between the European and international standardization organizations, and reinforcing European involvement in international standardization activities.

CEN and CENELEC will strive to further improve the coordination with the international standardization organizations with regard to the development of European standards in response to requests from the European Commission, giving presumption of conformity to European legislation, by defining a process that would allow ISO and IEC to be involved in consultations at an early stage during the development of such standardization requests.

CEN and CENELEC will continue to focus on identifying new market trends and innovative sectors where Europe could play a leading role in standardization, with the support of European industry and other stakeholders, and strive to foster the uptake of European leading technologies in standards developed by ISO and IEC.

Moreover, CEN and CENELEC will continue to encourage their partners around the world (national and regional standardization organizations) to adopt international standards published by ISO and IEC, and to actively support and participate in international standardization activities that could be of strategic interest for European stakeholders.

Elements of EU Work Programme 2015:

4. International Dimension of European Standardization

Further information:

www.cencenelec.eu/intcoop

Promoting the adoption of identical standards

CEN and CENELEC cultivate close relationships with the national standardization bodies and electrotechnical committees of numerous countries around the globe. These partnerships ensure that the main objectives of removing technical barriers to trade and cutting compliance costs are extended to the European Neighbourhood Policy countries (in which CEN and CENELEC have Affiliates) and beyond.

In 2015, CEN and CENELEC will re-assess and further strengthen these partnerships in order to extend the benefits of the European Standardization System beyond the frontiers of their members, and encourage the adoption of standards that are identical to European standards by third countries.

More than 1541 European Standards adopted by CEN and CENELEC have been provided to third countries for review and adoption. The adoptions by third countries, notified to CEN and CENELEC, mostly relate to the following sectors: building and civil engineering, materials, mechanical engineering and transport. In 2015, CEN and CENELEC will focus their dialogue with major trading partners on sectors of key strategic interest for Europe, in order to foster the uptake of identical standards in these sectors.

Special attention will be given to CEN and CENELEC Affiliates* in order to further reinforce the integration of those countries that wish to achieve greater alignment with the European market. While some Affiliates have achieved high levels of alignment with European standards adopted by CEN and/or CENELEC, with up to 82% identical standards at national level, the average take-up rate of European standards by Affiliates is less than 25%.

** CEN has Affiliates in 17 countries (Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Egypt, Georgia, Israel, Jordan, Lebanon, Libya, Moldova, Montenegro, Morocco, Serbia, Tunisia and Ukraine), while CENELEC has Affiliates in 14 of these countries.*

Relations with regional standardization organizations

CEN and CENELEC will continue to promote the European standardization model as a successful model of regional integration and market consolidation. This will be done through various activities such as developing dialogues with regional bodies, supporting the establishment of regional standardization systems, and contributing to projects related to the development of Quality Infrastructure in various parts of the world.

In 2015, CEN and CENELEC will proceed with implementing their Memoranda of Understanding (MoUs) with regional standardization organizations* by developing concrete activities that have been identified under the respective roadmaps. These activities include exchanging corporate and strategic information in order to foster the adoption of identical standards, cooperating on corporate, strategic and technical events, and facilitating technical exchanges and cooperation in sectors of mutual interest.

CEN and CENELEC will revise their MoU with EASC (the regional standardization organization of the CIS countries) in order to facilitate the adoption of identical standards and pursue their standardization dialogue with the Customs Union of Russia, Belarus and Kazakhstan. They will also strengthen their cooperation with the African regional standardization bodies (AFSEC and ARSO), such as by contributing to relevant technical assistance projects and actively supporting technical exchanges in key areas such as the electrotechnical sector.

Furthermore, CEN and CENELEC will continue their dialogue with the European Commission and other relevant donors regarding a new technical assistance project that would promote the European Quality Infrastructure in the Western Balkans.

** CEN and CENELEC currently have active Memoranda of Understanding (MoUs) with AMN (Mercosur Association for Standardization), ARSO (African Organization for Standardization), AFSEC (African Electrotechnical Standardization*

Commission), EASC (EuroAsian Interstate Council for Standardization, Metrology and Certification), GSO (Standardization Organization of the Cooperation Council for the Arab States of the Gulf), and COPANT (Pan American Standards Commission).

Support to regulatory and trade discussions

European standardization will continue to play a key role in trade discussions with countries and regions outside Europe, with a view to fostering a coherent understanding of European standards and regulations in countries that are major trading partners.

Currently, European Standards are being taken-up (via the adoption of identical national standards) by individual national standardization bodies (NSBs) upon request, but no such possibility exist for regional standardization organizations due to the complexity and diversity of the regional models. In 2015, CEN and CENELEC will develop a framework that would enable regional standardization organizations in other parts of the world to adopt standards that are identical to (or based on) European Standards.

CEN and CENELEC will continue to promote the European standardization model towards other regions of the world by actively engaging in dialogues with the relevant regional and national standardization organizations, including in support of trade talks between the European Commission and regional organizations such as the CIS (Commonwealth of Independent States), Mercosur (South America), etc.

CEN and CENELEC will seek to continue their dialogue with ANSI (American National Standards Institute) and various Standards Developing Organizations (SDOs) in the USA with the aim of consolidating transatlantic cooperation in the field of standardization, and fostering joint technical work in support of regulatory convergence. Progress in the transatlantic standardization dialogue would support the ongoing negotiations between the EU and the USA on a Transatlantic Trade and Investment Partnership (TTIP). CEN and

CENELEC will also continue to maintain close contacts with the relevant services in the European Commission, notably with regard to ongoing discussions on the Technical Barriers to Trade (TBT) chapter of the anticipated TTIP agreement.

The cooperation between CEN, CENELEC and JISC (Japanese Industrial Standards Committee) will be further developed in the framework of their revised cooperation agreement, which was agreed in 2014. Strengthening the standardization dialogue between Europe and Japan will also support the ongoing EU-Japan regulatory dialogue.

The cooperation agreement between the European Standardization Organizations and SAC (China) will be revised in light of recent trends and needs. Meanwhile, CEN and CENELEC will also continue their ongoing dialogue with Rosstandart (Russia) regarding the implementation of their cooperation agreement, which was signed in 2013. These partnerships will serve to reinforce the standardization components of regulatory dialogues between the EU and China, and between the EU and Russia.

Presence in key countries

CEN and CENELEC will continue to promote the European standardization system in countries of particular economic importance and foster improved mutual understanding by means of visibility projects, which are being developed in partnership with ETSI, the European Commission and EFTA.

The new 'Seconded European Standardization Expert in China' will become fully operational in 2015 in the framework of the SESEC III project, which is managed by CEN. This project aims to facilitate closer dialogue and cooperation between Europe and China on matters related to standardization, by acting at the political, strategic and technical levels. Within this context, CEN and CENELEC will organize an official visit to China, which would provide an opportunity to deepen their dialogue and strengthen their cooperation with SAC

(Standardization Administration of the People's Republic of China). The technical dialogue with SAC will rely on the feedback and contribution of European stakeholders and experts involved in standardization.

Meanwhile the 'Seconded European Standardization Expert in India' (SESEI) project will also continue. In this context, CEN and CENELEC will aim to develop their dialogue with BIS (Bureau of Indian Standards), notably in relation to areas of strategic interest (such as Low Voltage DC) where closer cooperation could be mutually beneficial.

Supporting SME participation

There are more than 20 million small and medium-sized enterprises (SMEs) in Europe, with less than 250 full-time employees each. These companies provide around two-thirds of all private sector jobs and account for more than half of the total value created by businesses. Successful SMEs can help to drive economic growth and job creation in Europe.

European Standards are essential tools that enable companies of all sizes to become more competitive and successful by achieving higher levels of efficiency, performance, quality and safety. Therefore, it is vital that SMEs are made aware of the benefits of standards and the various ways in which they can participate in standardization activities.

The need to encourage and support the participation of SMEs in the European standardization system was underlined in the European Commission's policy document on 'a strategic vision for European standards' (COM[2011] 311), and has also been highlighted in the EU Regulation on European Standardization (1025/2012).

In this context, CEN and CENELEC together with their national members have developed a range of tools and means with the aim of making it easier for SMEs to learn about standardization, to access and apply standards, and to get involved in standardization activities. These include: 'SME Toolbox of Solutions' (accessed via the CEN-CENELEC website); European SME Helpdesk plus 42 national SME Helpdesks;

CEN-CENELEC Guide 17 'Guidance document for standard writers taking into account SME needs'; online platforms for public commenting on draft standards (provided by national members of CEN and CENELEC); various brochures, publications, newsletters, etc.

CEN and CENELEC will continue to promote and support the participation of SMEs in standardization activities, working in close collaboration with their national members and with SBS (Small Business Standards). Specific activities to be developed in 2015 include:

- Publishing an 'e-Learning tool for SMEs': this interactive online educational tool (to be made freely available in 23 languages) will enable entrepreneurs and people who work for SMEs to learn about standards and standardization in a way that corresponds with their own needs.
- Making relevant information available to SMEs in all European countries via the websites of CEN and CENELEC national members (based on the example of the 'SME Toolbox of Solutions' on the CEN-CENELEC website).
- Promoting the systematic use of CEN-CENELEC Guide 17 by technical bodies in CEN and CENELEC, so that SME needs are taken into consideration during the drafting and revision of European Standards.
- Developing cooperation with SME networks, (sector-specific) business associations and other intermediaries in order to raise awareness among SMEs and support their participation in standardization activities.

Furthermore, CEN and CENELEC will explore the feasibility of developing an e-mail alert system that will enable SMEs (and other stakeholders) to receive up-to-date information about developments in standardization that could be relevant to their business (new standardization activities, enquiries on draft standards, etc.).

Further information:

www.cencenelec.eu/sme

Including societal stakeholders

CEN and CENELEC remain committed to facilitating and supporting the participation of societal stakeholders in the European standardization system. These stakeholders include organizations concerned with defending the interests of consumers, protecting the environment, and promoting the health and safety of workers.

The active involvement of societal stakeholder representatives in the standards development process ensures that European Standards take into account the needs and concerns of consumers, workers and the wider society, alongside the latest scientific and technical knowledge. The participation of these stakeholders in the European Standardization System is supported by dedicated umbrella organizations at European level.

CEN and CENELEC have established a Societal Stakeholders Group (SSG), which provides a framework for their ongoing cooperation and dialogue with these European umbrella organizations, namely: ANEC (the European Consumer Voice in Standardization), ECOS (the European Environmental Citizens Organization for Standardization), and ETUI (the European Trade Union Institute – Health and Safety Department).

The SSG has developed an online Toolbox for Societal Stakeholders, which can be accessed via the CEN-CENELEC website. This Toolbox provides information to consumer groups, environmental organizations and trade unions about the various ways in which they can contribute to standardization activities at both national and European levels.

In 2015, CEN and CENELEC will continue to work with their partners (ANEC, ECOS and ETUI) through the SSG, with a view to developing and implementing further activities that could contribute to increasing the awareness of societal stakeholders and promoting their participation in relevant standardization activities.

Further information:

www.cencenelec.eu/societal

Education about standardization

Standards are being used every day by businesses, manufacturers, public bodies and other organizations as tools for managing vital issues such as quality, performance, health and safety, energy efficiency, environmental impact, connectivity and interoperability. Having a good understanding of standards and standardization is therefore important for businesses, public authorities and regulators, engineers, scientists and researchers, legal professionals and others.

Education has a crucial role to play in preparing students to work with standards in their future professional lives. Learning about standards and standardization is especially relevant for students of science and engineering, design and architecture, business and economics, management and law (among others). Graduates and post-graduates who have learned about standard and standardization will be capable of dealing with any situation in which this knowledge might be useful.

CEN and CENELEC have adopted a Masterplan on Education about Standardization, which sets out their strategy for promoting education and training in relation to standards and standardization in the coming years. This Masterplan provides a framework for orchestrated action involving major stakeholders, with common leadership, initiatives and vision at European level, supporting the development and implementation of specific actions at national level.

In 2015, CEN and CENELEC will continue to work with their national members in order to build and strengthen national structures to promote 'Education about Standardization' and implement relevant activities in their respective countries.

Further information:

www.cencenelec.eu/standards/education

Members of CEN and CENELEC

For more information about standards and how you can participate in standardization, please contact the National Standards Body or National Electrotechnical Committee in your country.

Austria

AS - Austrian Standards Institute
www.austrian-standards.at

OVE - Österreichischer Verband
für Elektrotechnik
www.ove.at

Belgium

NBN - Bureau de Normalisation /
Bureau voor Normalisatie
www.nbn.be

CEB/BEC - Comité Electrotechnique Belge / Belgisch
Elektrotechnisch Comité
www.ceb-bec.be

Bulgaria

BDS - Български институт за стандартизация
www.bds-bg.org

Croatia

HZN - Hrvatski zavod za norme
www.hzn.hr

Cyprus

CYS - Κυπριακός Οργανισμός Τυποποίησης
www.cys.org.cy

Czech Republic

ÚNMZ - Ú ad pro technickou normalizaci, metrologii a
státní zkušebnictví
www.unmz.cz

Denmark

DS - Dansk Standard
www.ds.dk

Estonia

EVS - Eesti Standardikeskus
www.evs.ee

Finland

SFS - Suomen Standardisoimisliitto SFS ry
www.sfs.fi

SESKO - Suomen Sähkötekniikan
Standardoimisyhdistys
www.sesko.fi

France

AFNOR - Association française de normalisation
www.afnor.org

AFNOR – Système Français de Normalisation – UTE
www.ute-fr.com

Germany

DIN - Deutsches Institut für Normung
www.din.de

DKE - Deutsche Kommission Elektrotechnik Elektronik
Informationstechnik im DIN und VDE
www.dke.de

Greece

ΕΣΥΠ/ΕΛΟΤ - Ελληνικός Οργανισμός Τυποποίησης
www.elot.gr

Hungary

MSZT - Magyar Szabványügyi Testület
www.mszt.hu

Iceland

IST - Staðlaráð Íslands
www.stadlar.is

Ireland

NSAI - National Standards Authority of Ireland
www.nsai.ie

Italy

UNI - Ente Italiano di Normazione
www.uni.com
CEI - Comitato Elettrotecnico Italiano
www.ceiweb.it

Latvia

LVS - Latvijas standarts
www.lvs.lv

Lithuania

LST - Lietuvos standartizacijos departamentas
www.lsd.lt

Luxembourg

ILNAS - Institut Luxembourgeois de la normalisation, de l'accréditation, de la sécurité et qualité des produits et services
www.ilnas.lu

The former Yugoslav Republic of Macedonia

ISRM - Институт за стандардизација на Република Македонија
www.isrm.gov.mk

Malta

MCCAA - Malta Competition and Consumer Affairs Authority
www.mccaa.org.mt

The Netherlands

NEN - Nederlands Normalisatie-instituut
NEC - Nederlands Elektrotechnisch Comité
www.nen.nl

Norway

SN - Standard Norge
www.standard.no

NEK - Norsk Elektroteknisk Komite
www.nek.no

Poland

PKN - Polski Komitet Normalizacyjny
www.pkn.pl



Portugal

IPQ - Instituto Português da Qualidade
www.ipq.pt

Romania

ASRO - Asociația de Standardizare din România
www.asro.ro

Slovakia

SUTN - Slovenský ústav technickej normalizácie
www.sutn.sk

Slovenia

SIST - Slovenski inštitut za standardizacijo
www.sist.si

Spain

AENOR - Asociación Española de Normalización y Certificación
www.aenor.es

Sweden

SIS - Swedish Standards Institute
www.sis.se

SEK - Svensk Elstandard
www.elstandard.se

Switzerland

SNV - Schweizerische Normen-Vereinigung
www.snv.ch

Electrosuisse
www.electrosuisse.ch

Turkey

TSE - Türk Standardları Enstitüsü
www.tse.org.tr

United Kingdom

BSI - British Standards Institution
www.bsigroup.com

CEN (European Committee for Standardization) and **CENELEC** (European Committee for Electrotechnical Standardization) are recognized by the EU and EFTA as European Standardization Organizations responsible for developing standards at European level. These standards set out specifications and procedures in relation to a wide range of materials, processes, products and services.

The members of CEN and CENELEC are the National Standardization Bodies and National Electrotechnical Committees of 33* European countries. European Standards (ENs) and other standardization deliverables adopted by CEN and CENELEC are accepted and recognized in all of these countries.

European Standards contribute to enhancing safety, improving quality, facilitating cross-border trade and strengthening the European Single Market. They are developed through a process of collaboration among experts nominated by business and industry, research institutes, consumer and environmental organisations and other stakeholders.

CEN and CENELEC work to promote the international alignment of standards in the framework of technical cooperation agreements with ISO (International Organization for Standardization) and the IEC (International Electrotechnical Commission).

* number of full members in December 2014

