2021 ANNUAL REPORT

European Committee for Standardization • European Committee for Electrotechnical Standardization

CEN AND CENELEC ANNUAL REPORT | CEN ANNUAL REPORT | CENELEC ANNUAL REPORT

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WELCOME LETTER

In 2021, **CEN** and **CENELEC** were faced again with unprecedented challenges in a quickly evolving global situation, from managing a sustainable and inclusive recovery to coping with a degrading security environment at the borders of Europe. At the same time, standardization has been recognised as an important strategic ally in drawing our common European path, on the background of the twin Green and Digital Transition. In dealing with all these aspects, we confirmed our resilience and robustness.

As organisations committed to a well-functioning and trustworthy European Standardization System, we continued to adapt to the **new normal.** Through an in-depth process of rethinking, we fully embraced hybrid modalities of work, ensuring an agile and sustainable standardization environment. Our digitisation strategy is progressing to make our standards and processes “fit for the future” and able to meet the needs of the market.

Thanks to the impressive commitment of our members, experts and staff, these changes were all implemented smoothly, allowing us to keep a stable production rate: we published **1617 new standardization deliverables,** on topics ranging from Artificial Intelligence and data management to fight against climate change, from energy to mobility, and from healthcare to chemicals.

2021 has kicked off the implementation of our joint **Strategy 2030** through five priority projects, dealing respectively with the timely citation of European standards in the Official Journal of the EU (OJEU), the digitisation of processes and products (Smart standards and Open Source), assessing user needs, deepening our inclusiveness and reinforcing the European contribution in international standards organisations, such as **ISO** and **IEC,** to exert global leadership in the definition of the standards of the future.

Thanks to our shared efforts at all levels, our community will advance on the journey to become more digital, more sustainable and more responsive to our customers’ needs, while strengthening European leadership in international standardization.

As part of this wider reflection, we also worked together with the European Commission on the new European Standardization Strategy, released in February 2022 with the objective to accompany the European market in the ambitious Twin Green and Digital Transition and make Europe “a standards-maker, not a standards-taker”.

This is why, in January 2022, CEN and CENELEC signed the **London Declaration,** spearheaded by ISO and co-signed by IEC. Through the Declaration, we pledge for the inclusion of climate considerations in standardization, in support of the Paris Agreement and the UN’s Sustainable Development Goals (SDGs).

Above-mentioned highlights, together with many others, are presented in this **CEN and CENELEC Annual Report 2021,** which includes a section dedicated to strategic and standardization activities common to both organizations, followed by two individual sections, focussing respectively on CEN and on CENELEC.

The **CEN and CENELEC Annual Report** is a tribute to the work and efforts of many: our CEN and CENELEC Members, Officers and Board Members, our wide network of Partners and stakeholders in the industry and society, our advisors, and the many experts and collaborators, all across Europe, that have shown their unwavering commitment, ingenuity and professionalism.

Being part of such a community makes us proud and provides us with more than one reason for optimism: even if we cannot deny that the global context might look daunting, we can be sure that, by working together, we will be able to rise to the challenge and build a bright future for European standardization!

Stefano Calzolari,
CEN President

Wolfgang Niedziella,
CENELEC President

Elena Santiago Cid,
CEN and CENELEC Director General

CEN AND CENELEC IN FIGURES

	European Standards	Workshop Agreements	Technical Specifications	Technical Reports	European Standards identical to International Standards (ISO and IEC)	European Standards in the process of being adopted worldwide at the end of 2021
IN 2021						
Deliverables published in 2021	1 409	18	74	108	923	6 101
Deliverables published in 2021	1 617					
						Adoptions of European Standards in 45 countries and one regional standardization body (GSO)
OVERALL ON 31 DECEMBER 2021						
Portfolio at the end of 2021	23 922	501	674	814	10 708	115 973
Portfolio at the end of 2021	25 716					

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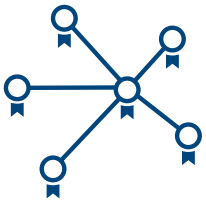
CEN AND CENELEC COMMUNITY



43
National Standardization Organisations (34 countries)

20
Companion Standardization Bodies

3
Affiliates

366
European Partners

2
Counsellors *(EC + EFTA)*

1
Associated bodies

16
Partner Organisations

319
Liaison Organisations

6
European Institutional Stakeholders

22
Other Partner Organisations

439
Technical Commitees (TCs)

21
Joint Technical Committees (CEN/CENELEC and CEN/CENELEC/ETSI)

1 906
Working Groups (of TCs & SCs)

90 000
Expert Roles in CEN and CENELEC

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MAIN HIGHLIGHTS

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STRATEGY 2030

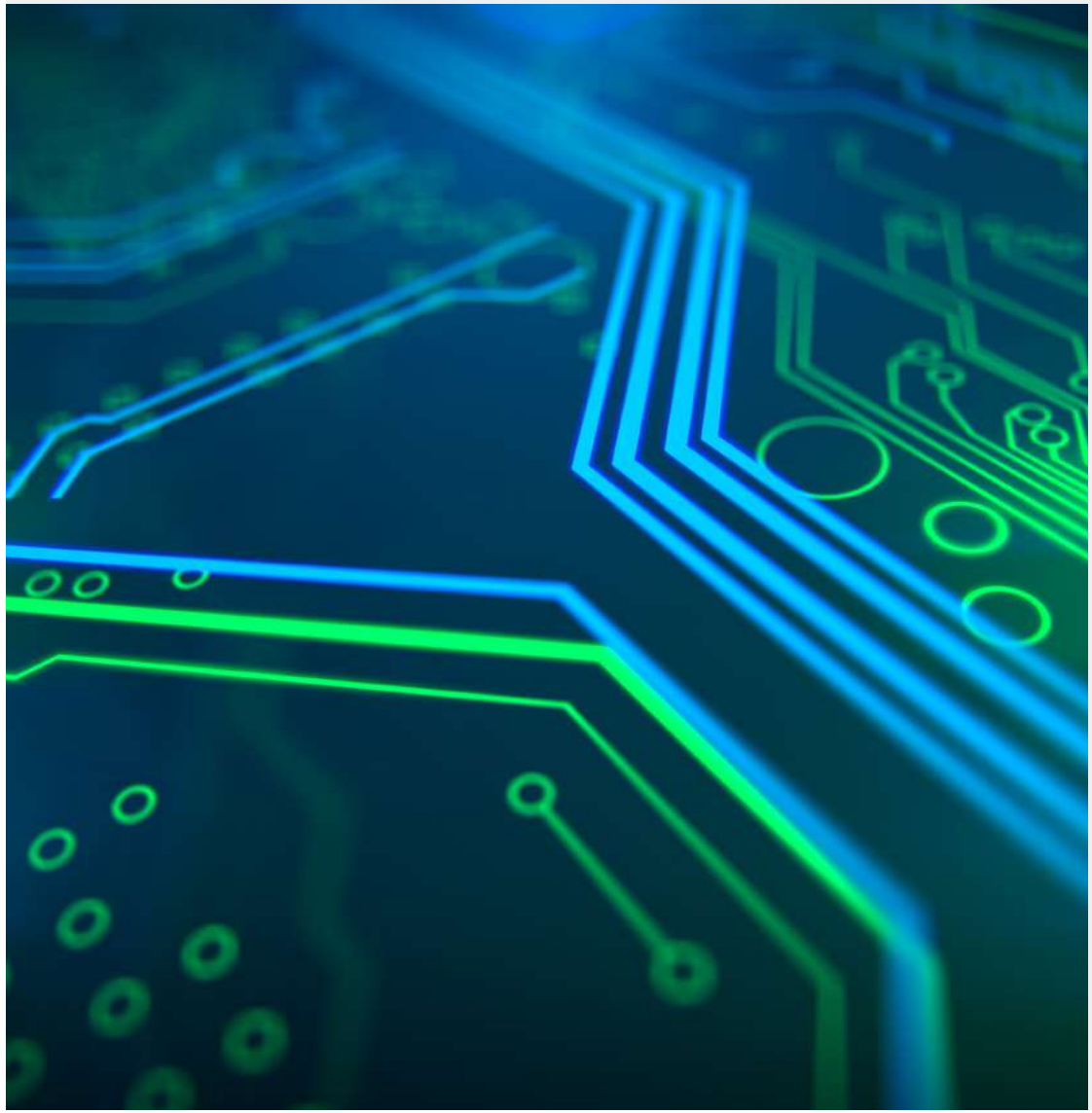
2021 marked the kick-off of the CEN and CENELEC Strategy 2030, which was adopted by the CEN/AG and CENELEC/AG in November 2020. The new strategy is rooted in a comprehensive understanding of Europe's strategic context defined by the Twin Green and Digital Transition, and identifies five strategic goals for CEN and CENELEC to work towards over the next decade:

1. EU and EFTA recognise and use the strategic value of the European standardization system
2. Our customers and stakeholders benefit from state-of-the-art digital solutions
3. Increase the use and awareness of CEN and CENELEC deliverables
4. The CEN and CENELEC system to be the preferred choice for standardization in Europe
5. Strengthen our leadership and ambition at the international level

In order to deliver upon these five strategic goals, an Implementation Plan was developed and approved in 2021, which will serve as a framework of reference for the CEN and CENELEC community. The Implementation Plan provides comprehensive guidance on how to achieve the strategic goals in a modular, incremental way and has been aligned with similar strategic planning exercises at both national and international levels, notably within ISO and IEC. It includes the following core components:

1. A high-level Measurement Framework, which defines actionable objectives, success statements and both short- and long-term KPIs for each of the goals and priorities identified under the S2030. The Measurement Framework will serve as a living document, to be updated and revised as circumstances evolve.
2. A Monitoring and Accountability Framework, which stipulates the different roles and responsibilities of the actors involved in the implementation, monitoring and evaluation of the S2030. The M&A Framework further defines the processes and reporting lines required to establish a fit-for-purpose delivery architecture to drive an agile and project-based implementation of the Strategy 2030.
3. The adoption of a first batch of strategic projects, to be implemented as of 2022. This included the development, consolidation and approval of the projects' respective project charters, including costed budgets, project leadership and team composition and a comprehensive description of the envisioned, scope, objectives, deliverables, milestones and timelines.

EUROPEAN STANDARDS FOR THE TWIN TRANSITION



European standards are a key tool to make the Single Market work. Today, European standards, adopted in 34 countries, power the Single Market by helping to ensure that we have common levels of safety, security and sustainability while reducing compliance costs and increasing the competitiveness of the European industry.
In particular, European Standards support the twin Green and Digital Transition, to make a more sustainable and competitive European economy.
In 2021, CEN and CENELEC had a specific focus in contributing to the twin Green and Digital Transition, working together with the European Commission: not only is it at the heart of the CEN and CENELEC Strategy 2030 (*see dedicated chapter above*), but also we offered key, actionable solutions to address the needs of Europe's recovery and growth.

The next pages will showcase some of the highlights of these activities. Their horizontal nature shows how CEN and CENELEC's work on digital and green issues is embedded into its strategic priorities.

1. STANDARDS FOR THE DIGITAL TRANSITION

One of the main areas for the continuation and deepening of the Single Market to unleash Europe's growth potential is **digitalisation.** New digital technologies, such as IoT and 5G, are dissolving the borders between sectors and pushing more and more business models to move from vertical sectors to horizontal and collaborative approaches. CEN and CENELEC are committed to help Europe reap the benefit of digitalisation, by working to make the standardization system fit for the digital age.

Examples of CEN and CENELEC's efforts regarding digitalisation and new technologies are the work on Blockchain and Distributed Ledger Technologies (CEN-CLC/JTC 19) and the ongoing work on Cybersecurity (CEN-CLC/JTC 13, CLC/TC 65X) and Artificial Intelligence (CEN-CLC/JTC 21). Contributing to the uptake of digital technologies, the work on ICT skills and digital competencies (CEN/TC 428) supports the maturing of the ICT profession in all sectors, public and private.

Further to these horizontal topics, CEN and CENELEC were active in several sectors undergoing the digital transformation, through their footprint in vertical industries: Intelligent Transport Systems - ITS (CEN/TC 278), eHealth (CEN/TC 251), Smart grids and Smart metering (among others, CLC/TC 57 and CLC/TC 13), and Advanced manufacturing (CEN/TC 310 and CEN/TC 438).

From a technical policy perspective, in 2021 CEN and CENELEC worked closely with the European Commission, notably in the context of the Multi-Stakeholder Platform on ICT standardization (MSP), to develop European standards and other European deliverables, ensuring the alignment of standardization with the European policy objectives.

Moreover, in 2021 CEN and CENELEC continued to cooperate with ISO and IEC, in the frame of the Vienna and Frankfurt agreements, to agree on common standards that can be applied worldwide, contributing to the removal of technical barriers to trade and the competitiveness of European companies.

Also emerging and of key importance are Quantum Technologies (QT). In the frame of the European Commission's initiative QT Flagship, the CEN and CENELEC Focus Group on Quantum Technologies was created and will address the challenges faced in Europe from a standardization perspective. The Focus Group will ensure interaction between all relevant European stakeholders interested in potential standardization in the field of Quantum Technologies, map ongoing activities, define needs and opportunities and recommend further action to ensure that standards support the deployment of Quantum Technologies in industry. The Focus Group will also develop a Roadmap for European standardization. In 2021, FGQT was working on the finalisation of the first working draft of the roadmap.

For more information on CEN and CENELEC's activities on Digital Technologies, please read Chapter 5 – Digital Society in the part 'Standardization Activities' (below).

DIGITAL TRANSFORMATION OF CEN AND CENELEC

Together with developing standards for a digital society, CEN and CENELEC also continue to execute their own digital transformation strategy, reflected in the Strategy 2030 under *Goal 2: Our customers and stakeholders benefit from state-of-the-art digital solutions,* via three key projects:

1. Online Standards Development

Online Standards Development (OSD) provides a Word-like, browser-based XML editor for technical bodies to draft their deliverables. It has a lot of advantages compared to Word, like normative reference lookups, concurrent editing and automatic numbering, structuring and quality checks in line with the Internal Regulations. Expected benefits include greater transparency, higher quality and easier/faster drafting. The project is being implemented jointly with ISO and IEC and contributes to Objective 2.2 of the CEN and CENELEC Strategy 2030 (*Transform the standards development process*).

The five original CEN and CENELEC pilots that began authoring their documents via the new platform in 2020 were expanded to a total of 17 pilots by the end of 2021, with all pilot groups contributing both positive feedback as well as constructive suggestions for fine tuning. In preparation for the next major phase, Member Commenting, which involves national Members submitting comments to the technical body, a significant focus in late 2021 was to provide tools for efficiently managing large volumes of comments.

2. Smart Standards

The Smart Standards project aims to introduce by December 2024 a framework for producing machine readable content in order to keep standards relevant for future users. It contributes to Objectives 2.1, 2.2 and 2.3 of the CEN and CENELEC Strategy 2030 (*Produce standards fit for the digital economy, Transform the standards development process* and *Transforming our business models for the digital era,* respectively).

The project scope is transversal, including legal and commercial topics in addition to processes, IT and stakeholder engagement.

In 2021, two new pilot projects, Pilot #3 on Product Standards and Pilot #4 on New Work Items, completed their work,developing potential ways for creating smart content; this fed into Pilot #5, which consolidated the inputs from all previous pilots into a first version of a possible information model. Another focus of the work in 2021 was collecting requirements from standards users in the form of user stories to ensure that market needs are fully understood and will be met.

3. Open-Source Solutions

The Open-Source Solutions project aims to introduce a framework for creating open-source deliverables within our standardization ecosystem. There are many drivers for the project, including demand from technical bodies and users, as well as potential future funding from the European Commission. Open-source is not just about format (any type of design, including software) but also the licence under which it is issued (one which grants freedoms to use, understand, modify and redistribute it). The framework needs to address all lifecycle stages from proposal, through development, to approval, publication and ongoing maintenance. Licensing, intellectual property rights and funding will be key challenges, as well as different processes needed to support faster speed expectations. It contributes to Objectives 2.1, 2.2 and 2.3 of the CEN and CENELEC Strategy 2030 (*Produce standards fit for the digital economy, Transform the standards development process* and *Transforming our business models for the digital era,* respectively).

In 2021, input was drawn from a range of sources including the CWA approach, e-invoicing, ETSI, other case studies and a series of workshops. These inputs were used to begin formulating draft elements of the framework, including processes, licensing, business model and repositories which will need to be tested via pilots.

2. STANDARDS FOR THE GREEN TRANSITION

European standards developed to contribute to the protection of the environment are important to reach the objectives of the European Green Deal and the UN Sustainable Development Goals (SDGs). Standards help tackle climate change, ensure the conservation of our natural environment and implement the sustainable use of resources and energy. They are key tools that complement national and European policies aiming to lead the transition towards a green economy and reach the climate target of net zero by 2050.

All technical bodies in CEN and CENELEC are expected to take environmental aspects and climate change adaptation considerations into account. A set of tools and support services (such as the environmental helpdesk for CEN) are also available to help TCs in all sectors address these aspects in standards. These services are currently being reviewed to align them with the latest strategic priorities of CEN and CENELEC. In 2021, the 'CEN approach on addressing environmental issues in standardization' was updated and the training of all Technical Committees was ensured via a dedicated webinar.

In order to better address major horizontal environment-related standardization challenges, the CEN and CENELEC Strategic Advisory Body for Environment (SABE) continued to ensure the coordination of standardization work in support of the European Green Deal. SABE maintained a close cooperation with the European Commission and regularly discussed with policymakers how standards can support the implementation of environmental, climate and related policies. In 2021, SABE initiated again the organisation of several webinars (addressing sustainable finance, biodiversity, and carbon neutrality) with the involvement of Commission policy makers and the objective of promoting European environmental policy priorities and the related standardization.

In 2021, CEN and CENELEC also continued strengthening the role of circularity in standardization in line with the European Commission's Circular Economy Action Plan. A bigger focus was put on circularity during the development

of standards for the key value chains: electronics and ICT; batteries and vehicles; packaging; plastics; textiles; construction and buildings; food; water and nutrients. The European Standards covering specifications on design, production and wastes are drafted in support of the requirements of the relevant legislations.

In its second year of activity, the SABE dedicated group on 'Circular Economy' continued to focus on identifying and discussing strategic standardization issues related to Circular Economy and to advise on standardization priorities based on the identified needs (for example mapping ongoing, planned, missing, and blocking standardization activities, collecting the related terminologies and building closer relation with relevant groups and EC officers). The group improved the exchange of information among technical committees to promote a mutual understanding of current standardization issues in the field of circular economy. By the end of 2021, the group had over 120 members.

Some of the activities on the field are listed below, divided per macro-section:

Climate ambition and climate adaptation

The CEN and CENELEC Co-ordination Group on Adaptation to Climate Change coordinates the standardization work regarding the adaptation to climate change. Its major objective is to support the resilience of the European infrastructures through standards that incorporate climate adaptation needs. CEN and CENELEC work closely with ISO and the IEC to avoid duplication of work, adopting each other's standards as appropriate.

In 2021, CEN and CENELEC continued to work intensively on the development and revision of the standards in support of the EU Strategy on Adaptation to Climate Change, based on Standardization Request M/526 on Climate change. The objective of the work is to make European infrastructure resilient to the impact of a changing climate. The new EU Adaptation Strategy adopted in February 2021 gave a boost to the ongoing work. More and more Technical Committees understood the importance of addressing climate adaptation in standards.

The revision and development of the identified highest-priority standards were ongoing in the relevant technical committees active in the priority sectors, such as transport, energy and construction, and the supporting ICT. The newly revised standards and the experience gained by TCs were presented to other TCs. As a result, standards for infrastructures started to be better linked to future climatic conditions.

In 2021, the adaptation-related work was extended to addressing climate change adaptation in other standards for infrastructures. At the same time, the activity aiming to identify where European standards can help the market uptake of the adaptation measures also started.

A conference on the topic planned to be held end of 2021, aiming to share the results of the work with the broader public and to get on board more experts from other sectors that may be impacted by climate change, was postponed to February 2022.

CEN and CENELEC work closely with DG CLIMA to make sure that their standardization activities are well aligned to support the climate change objectives. In 2021, CEN and CENELEC paid particular attention to the adaptation solutions at building level related to the EU's Renovation Wave Strategy and the already mentioned above new EU Strategy for adaptation to climate change.

A lot of standardization work supporting the EU's climate neutrality objectives is also ongoing in various CEN and CENELEC sectors such as fuels, gas, air quality, transport etc. The related standardization work is described on the relevant sectors' chapters below.

In order to be able to better coordinate the specific climate-related work

at international level, particularly at ISO, new CEN/TC 467 'Climate change' started its activities in 2021. The TC plans to set up dedicated working groups for adaptation and mitigation. In 2021, the TC set up the mitigation working group. The work programme of the TC is still under development.

Waste and secondary raw materials

CLC/TC 111X 'Environment' planned to start the revision of the standards for collection, logistics and treatment requirements for Waste Electrical and Electronic Equipment (WEEE) developed in support of the WEEE Directive (2012/19/EU) and under Standardization Request M/518 in 2021. The revision was postponed to align the work with the ongoing legislative developments. In 2021, the TC launched and evaluation procedure and would conclude on a possible update or reconfirmation of the standards in 2022.

In 2021, the TC also worked on the delivery of a European Commission Ancillary Action on material efficient recycling and preparation for re-use of Critical Raw Materials (CRMs) from different waste streams. The outcome of this work will be a report comprising the mapping of already existing national, European and international standards in the area of waste treatment and production of secondary critical raw materials. This mapping will also include a gap analysis and proposals on how to address those gaps in future standardization actions, as well as a ranking of the key waste streams in question and their components in terms of high potential for high quality recycling of CRMs through European standardization. In 2020, the TC created a new dedicated working Group (WG 11) to carry out the action. The WG started its work in 2021 with a new convenor. The action was expected to end in 2022 but will now be extended.

In 2021, the TC also adopted three parts of a series of IEC standards on the determination of certain substances in electrotechnical products as European Standards (EN IEC 62321 Part 2, 3 and 9).

Air quality

CEN/TC 264 'Air quality' works closely with the European Commission's DG Environment on the development of standards in support of the Directives on Industrial Emissions (IED) 2010/75/EC and on Ambient Air 2008/50/EC. The TC develops and revises standards that allow the measurement and the comparison of measurement results of the known pollutants across the EU, in line with the current European legislation.

Following the completion of the validation works, the development of the standards under Standardization Requests M/513 (Measurement of the concentration of HCl in waste gases) and M/514 (Measurement of fugitive and diffuse emissions of volatile organic compounds) continued in 2021. The reference method for the determination of the concentration of gaseous hydrogen chloride (HCl) in waste gases (EN 16429) was published in 2021. The formal vote on the standard method to determine

diffuse emissions of volatile organic compounds into the atmosphere (EN 17628) started at the end of 2021 and the standard will be published in 2022.

The TC also finalised Part 3 of EN 17255 'Data acquisition and handling systems', the 'Specification of requirements for the performance test of data acquisition and handling systems' (EN 17255-3).

The standardization work under Standardization Request M/561 on Measurement of ozone precursors continued in 2021.

In 2021, the TC also finalised two Technical Specifications, a manual reference method for the determination of the mass concentration of formaldehyde (CEN/TS 17638), and the performance evaluation of air quality sensor systems - Part 1: Gaseous pollutants in ambient air (CEN/TS 17660-1).

Furthermore, CEN/TC 264 continued working on the development of standardization requests with the EC, such as the next set of standards supporting the IED, which will be the standards for the monitoring emissions of Polychlorinated dibenzodioxins (PCDDs)/ Polychlorinated dibenzofurans (PCDFs) and polychlorinated biphenyls (PCBs), total gaseous mercury and formaldehyde.

Water analysis

In 2021 CEN/TC 230 'Water analysis' started new work on determination of the sum of perfluorinated substances (Sum of PFAS) in drinking water with a method using liquid chromatography/mass spectrometry (LC/MS). The work was initiated as a result of a formal request from the European Commission. The EU Commission is currently preparing its new Chemicals Strategy for Sustainability and its PFAS Action Plan: the standard would support these initiatives, as well as the new European Drinking Water Directive, which requires the Commission to establish technical guidelines regarding the analytical methods, including detection limits, parameter values and frequency of sampling for monitoring of 'PFAS total' and 'Sum of PFAS'.

In 2021, the TC also adopted a series of ISO standards as European standards and finalised a Guidance for assessing the efficiency and related metrics of fish passage solutions using telemetry (EN 17233).

Sustainable and Smart Cities and Communities

CEN/CENELEC/ETSI Sector Forum 'Smart and sustainable cities and communities' (SF-SSCC) is an advisory and coordinating body providing advice on European interests and needs relating to standardization on smart and sustainable cities and communities. In 2021, the main focus of SF-SSCC's work was on citizen's aspects in the sustainable and smart cities, nature-based solutions in sustainable urban development and digital twins. The main objective is to ensure that standardization applicable to cities and communities incorporates the six purposes of sustainability: Attractiveness, Preservation and improvement of environment, Resilience, Responsible resource use, Social cohesion, Well-being.

The relevant standardization work is carried out by CEN/TC 465 'Sustainable and Smart Cities and Communities', covering the development of requirements, frameworks, guidance, supporting tools and techniques. In 2021 the Technical Committee continued to address specific European needs through a consistent approach with ISO/TC 268 'Sustainable Cities and Communities'. The activities will support the development and implementation of a holistic and integrated approach to the achievement of sustainable development and sustainability, particularly in line with the 'twin green and digital transition'. In 2021, the TC established its business plan and work programme that are in line with the priorities identified by SF-SSCC. The standard development will start in 2022.

INNOVATION & RESEARCH

Since 2009, CEN-CENELEC/BTWG 3 'STAIR' (STAndards, Innovation and Research) is the focal point within CEN and CENELEC for any matter related to integrating standardization with innovation and research. In 2021, STAIR renewed its Terms of Reference to reinforce the ambition of supporting the CEN and CENELEC Strategy 2030 objectives, recognizing research and innovation input into the standardization processes as being crucial in order to make Standardization better fit for the future.

The main activities developed in 2021 focused along three lines of action:

1. Developing CEN and CENELEC's capability to engage the R&I community

In 2021, CEN and CENELEC renewed their Cooperation Agreement with the Joint Research Centre of the European Commission (JRC) for further five years. The renewal of this collaboration will continue to provide European and international standardization with scientific input, and it will build on lessons learnt and successes achieved.

Furthermore, a new CEN and CENELEC Guide on the role of standards in support of Technology Transfer was developed for publication in 2022. The Guide explains the role of standards in promoting innovation in the marketplace and it is intended for use by the CEN and CENELEC Members in their contacts with R&I stakeholders.

The third edition of the Standards+Innovation Awards took place in 2021 to celebrate and acknowledge the important contribution of research and innovation to standardization. Awards were presented in four categories, including for the first time an award to a 'young researcher'.

2. Identification of new topics for standardization

Reinforcing channels and sources to identify new standardization areas for CEN and CENELEC and to further develop internal foresight capacity was paramount in 2021.

A set of 20 innovative topics was identified and presented to the CEN and CENELEC Technical Board for consideration and possible adoption into the Technical Work program.

The workshop ‘Organ-on-Chip: Towards Standardization’ took place as the 2021 edition of Putting Science into Standards (PSIS) in collaboration with the Joint Research Centre. The PSIS workshop gathered more than 200 participants from academia, industry, policy makers, regulatory experts, and standardizers. The workshop resulted in the creation of the CEN-CENELEC Focus Group on Organ-on-Chip (FG OoC), which shall ensure interaction between all relevant European stakeholders interested in potential standardization in the field of OoC, map ongoing activities, define priority needs and opportunities and recommend further action to ensure that standards support the deployment of OoC in industry and help to ensure its regulatory acceptance.

3. Integrating standardization and research projects

The launch of Horizon Europe, the European research and innovation Framework programme 2021-2027, presented the opportunity to reinforce standardization as a valorisation tool for research results. Among the first set of Horizon Europe calls for project proposals, 125 were identified as a potential opportunity for the project activities to feed input into standardization. Moreover, CEN contributed to the development of two project proposals in reply to Horizon Europe calls directly addressing how standardization interfaces with researchers.

CEN and CENELEC also collaborated with the European Commission in the development of a dedicated European Code of Practice for researchers on standardization, which will be published in 2022.

In 2021, CEN and CENELEC also continued their close cooperation with EURAMET contributing to metrology research needs by implementing standardization activities and participating to the European Partnership on Metrology. All CEN and CENELEC Technical Committees were approached to provide information on their metrology research needs.

EU POLICY ENGAGEMENT

CEN and CENELEC, as two of the officially recognised European Standardization Organisations, closely cooperate with the EU institutions to help strengthen the Single Market and achieve the key policy objectives for a competitive, sustainable and resilient Europe, based on the New Legislative Framework (NLF) principles.

In 2021, this cooperation continued and was further strengthened in light of the needs of the European recovery. In particular, specific focus was put on working together with the European Commission and explore new ways of cooperation regarding two important regulatory developments: the review of the European Industrial Strategy presented on 5 May 2021 and the work leading up to the new European Standardization Strategy, presented in February 2022 but prepared throughout 2021, with a series of consultations and meetings.

To coordinate and streamline their work on European Policy Engagement, CEN and CENELEC are coordinating since 2018 an informal group of policy professionals from their members known as the European Policy Hub (EPH). Within that group, a dedicated set of members is specifically allocated to engagement activities at the European level, known as the EPH-BA (where BA stands for “Brussels Arm”). In 2021, the group continued its pilot project and progressed into a stronger online presence, appropriate in the context of the current COVID-19 sanitary measures.

Working remotely, the group have been an asset for CEN and CENELEC to be able to pursue more targeted consultations, in a more agile and efficient manner. One topic in particular was at the core of CEN and CENELEC’s work on policy and relied therefore on the important contribution of EPH: the new European Standardization Strategy.

Progressing into early August, the group assisted in the drafting of a reply to the European Commission's Roadmap and in preparing a meeting with the necessary counterparts of DG GROW. This draft was then sent to the Technical Boards for approval. While the Strategy would be released only in February 2022, the groundwork for this initiative proved to be a successful example of teamwork between CEN, CENELEC and its Members.

Meeting with the objective of being more agile and efficient, the work of the EPH proved to be a valuable resource to enhance standardization organisations as a stakeholder for discussions in the development of the European Single Market and in achieving the ambitions of the Industrial Strategy. In addition to the European Standardization Strategy, progress was also made in other key sectors: Machinery Regulation, Artificial Intelligence, Batteries and the European Year of Rail.

IMPROVING THE PROCESS OF CITATION OF HARMONIZED STANDARDS IN THE OJEU

CEN and CENELEC carried on the efforts to increase the number of harmonized standards (hENs) offered for citation which end up being successfully cited.

In 2021, as an outcome of the fruitful cooperation between technical experts, HAS consultants and all relevant stakeholders, CEN and CENELEC saw an improvement in the number of citations in the Official Journal; at the same time the number of standards pending citation was reduced to less than 200 references, most of them being offered in 2021.

CEN and CENELEC continued monitoring their KPIs agreed with the Commission to ensure that standards are of good quality and are timely processed during their development.

Furthermore, in 2021, CEN and CENELEC continued monitoring the quality of documents provided for HAS assessments. As an outcome of this activity, the Technical Boards agreed with the content of a checklist, which technical bodies need to fill-in prior to the submission of documents to the HAS consultants. In addition, several trainings were organised to help the drafting of harmonized standards and to support the resolution of the main non-conformities of the standards. The Technical Boards have also been working on a guidance document for the handling of normative references which is expected to facilitate the development process and to ensure standards comply with the more stringent requirements and allow future citation.

At the end of 2021, 92% of the active CEN and CENELEC deliverables offered for citation were cited in the Official Journal (92% in CEN, 92% in CENELEC).

GLOBAL OUTREACH

The international cooperation activities of CEN and CENELEC aim to fully develop the role of standards in support of European trade objectives and European businesses, to boost their competitiveness on the global stage. To achieve this ambition, CEN and CENELEC co-operate with their international partners, focusing on:

1. **Increased technical alignment** and contribution to the reduction of barriers to trade for industry through the adoption of international and European standards, with increased access to and sharing of approaches on standards and standardization. A particularly relevant (and successful) example of this is the standards for lifts (EN 81 family) adopted in China.
2. **Promotion of the European Standardization System (ESS)** to increase the understanding of its principles, strengths and benefits, thus resulting in emulation by partner organisations.
3. **Cooperation on strategic objectives for Europe,** such as the twin green and digital transition, coordinating with international counterparts ISO and IEC. This work at the global level aims to result in key trade partners for Europe adopting the relevant international standards and/or the identical adoption of European standards, for priority industry sectors.

Companion Standardization Bodies (CSBs)

This privileged status, which provides, amongst other advantages, direct access to CEN and CENELEC standards depositories and the opportunity to send observers to the work of our technical committees, is a powerful lever to increase technical alignment, as it allows our Companion Standardization Bodies (CSBs) to get closer to the European Standardization System. CEN has currently 18 CSBs, whilst CENELEC has 11 CSBs, mostly from countries of the European Neighbourhood Policy of the European Union, but also from sub-Saharan countries (Cameroon, Ivory Coast), Australia, New Zealand, Kazakhstan and Mongolia.

Global Outreach Report

Twice a year, CEN and CENELEC issue their **Global Outreach Report,** that provides an overview of technical alignment achieved with non-European partners through the adoption of identical standards with a sectoral approach. It offers a dynamic perspective, showing what the level of alignment is with ISO and IEC, where European homegrown standards are adopted, as well as the different cooperation frameworks CEN and CENELEC have with national and regional standardization bodies around the world. The ⊖ December 2021 version of the report also includes an overview of adoptions of European deliverables made freely available in support of the fight against the COVID-19 outbreak.

GLOBAL OUTREACH

WORLDWIDE ADOPTION OF EUROPEAN STANDARDS IN 2021

European Standards in the process of being adopted worldwide at the end of 2021

6 101

European standards adopted in 45 countries outside the CEN and CENELEC membership and one regional body (GSO)

115 973

Adoption of CEN and CENELEC portfolio by the 3 Affiliates (DSP, ISBIH and ISME)

84%

127 adoptions of a series of 39 standards in the context of the fight against Covid-19

Champion CSB: INS (Moldova)

23 327 ENs adopted in total

5 Cooperation agreements with third countries' NSBs

13 MoUs with Regional Standardization Bodies

GLOBAL OUTREACH

PRIORITY INTERNATIONAL PARTNERSHIPS

Through CEN and CENELEC's exercise of prioritising international partnerships, which was carried out in 2018, five priority partners were identified: ARSO and AFSEC (Africa), SAC (China), GSO (Gulf Region), BIS (India) and JISC (Japan).

In 2021, the co-operation with these organisations continued with joint exchanges and actions reflecting the strengthened partnerships. Highlights include:

ARSO and AFSEC (Africa): CEN and CENELEC's Task Force Africa developed a Quality Infrastructure Roadmap for Africa "enabling Africa to be safe, sustainable and fair" to support the development of the Africa Continental Free Trade Area (AfCFTA);
SAC (China): a new Cooperation Agreement was signed with SAC, further strengthening the links between CEN, CENELEC and SAC, and supported by the work of the CEN and CENELEC Task Force China;
GSO (Gulf region): CEN and CENELEC and GSO addressed European stakeholder standardization needs in fields such as toys safety, fire safety, security and construction;
BIS (India): we provided a European contribution to the Indian National Standardization Strategy;
JISC (Japan): CEN and CENELEC provided support to EU-Japan Regulatory Dialogue.

STAKEHOLDERS' ENGAGEMENT

CEN and CENELEC are committed to close cooperation with their stakeholders, as it is key to ensure the high quality of our deliverables and the legitimisation of our system.

The Industry Advisory Forum (IAF), set up at the end of 2018, offers a flexible mechanism for industry representatives to feed their views into CEN and CENELEC's standardization work. The aim of the Forum is to provide a platform for dialogue with industry to advise on key standardization strategic issues and ensure that standards and standard-making processes provide an adequate response to market needs.

Since 2014, CEN and CENELEC regularly organise a series of Stakeholders' Engagement Workshops to connect with industry and all relevant parties, hear their feedback and concerns, and identify together suitable standardization solutions at European or international level. In 2021, two Stakeholders' Engagement Workshops were organised, tackling technical and strategic issues, identifying standardization needs and policy gaps.

Alongside meeting the needs and interests of European industry and business, one of CEN and CENELEC's goals remains maintaining an inclusive and open European Standardization System, ensuring the due and effective participation of organisations representing the interests of civil society and of SMEs. In particular, CEN and CENELEC have a close and fruitful relationship with those organisations referred to as Annex III organisations in the EU Regulation 1025/2012 and that have signed a partnership agreement with CEN and/or CENELEC (ANEC, ECOS, ETUC, SBS).

STAKEHOLDERS' ENGAGEMENT WORKSHOPS

Cybersecurity requirements and standardization activities under the scope of the Radio Equipment Directive

2 FEBRUARY 2021

FOCUS

This online workshop was organised jointly with ETSI and ENISA in the framework of the annual Cybersecurity Standardization Conference. The panel discussions highlighted the connection between the European regulatory requirements and explored how standardization can align with the EU policy goals in a global context.

OUTCOME

Participants discussed the link between the requirements of the RED and those associated with the Cybersecurity Act, in anticipation of the expected delegated acts and standardization request to come for CEN-CENELEC and ETSI.
The outcome of the exchanges fed the work of several relevant CEN and CENELEC technical bodies, including CEN-CENELEC JTC 13 'Cybersecurity and Data Protection'; CEN-CENELEC AI Focus Group (now JTC 21 'Artificial Intelligence'); CEN-CENELEC/BT WG10 – RED Impact on Standardization.

Standards in support of the industrial data value chain

28 SEPTEMBER 2021

FOCUS

This online workshop was organised jointly with ETSI and in collaboration with GAIA-X.
The discussions focused on the role of standards to create trust in innovative technologies and enable European stakeholders to fully benefit from the added value of industrial data.

OUTCOME

Participants explored and identified ways in which standards can support the development of Industrial data, highlighting the challenges and opportunities that come with industrial data across sectors, such as security, interoperability, or quality. Based on their varied experiences, panellists identified cross-sectoral synergies and common gaps that need to be addressed by standardization in order to build a trustworthy and reliable industrial data value chain.
The inputs of the event were translated into recommendations to CEN and CENELEC's relevant groups on the next steps for Industrial Data Standardization, including CEN-CENELEC/BT WG6 – 'ICT Standardization Policy' and the CEN-CENELEC-ETSI Coordination Group on Smart Manufacturing.

ACTIVITIES SUPPORTING STAKEHOLDERS: INDUSTRY, SOCIETAL AND SMEs

INDUSTRY ADVISORY FORUM (IAF)

The purpose of the Industry Advisory Forum (IAF) is to provide a platform for high-level industry representatives and CEN and CENELEC to have an open exchange on current strategic standardization issues, identify and inform on standardization priority topics for the industry and express recommendations, expectations, and concerns to identify common solutions.

16 IAF members were nominated by the CEN and CENELEC Members and Industry Partners for a 3-year mandate (2018-2021), on the basis of several criteria, such as high managerial level, relevant know-how, sectorial balance across CEN and CENELEC. They represent both SMEs and large industries and ensure an adequate geographical and gender balance.

In 2021, the IAF focussed on developing recommendations to the CEN and CENELEC boards and relevant groups on a variety of topics: the cooperation with other Standardization Organisations (SDOs), the digitalization of industry, standards for the circular economy, ICT Services standards to support the green transition, and the Global Standardization System impact. Furthermore, as 2021 marked the end of the 1st mandate of the Industry Advisory Forum, an impact assessment of the group was conducted, which led to its continuation for a second mandate to kick-start in 2022.

eLEARNING COURSE FOR SOCIETAL STAKEHOLDERS

ANEC, ECOS and ETUC have joined forces with CEN and CENELEC to further promote their successful joint eLearning course on standardization for societal stakeholders Standards for all, which was launched in 2018.
This free online course provides clear and straightforward information about the standardization process in Europe, as well as at the national and international levels. Based on the supporting organisations' expertise, it contains several modules to help users learn about standards, their development and the key role they play in protecting consumers, workers and the environment.
In 2021, CEN and CENELEC together with ANEC, ECOS and ETUC revised and updated the content of the eLearning course to reflect recent changes and add best practices. The objective of the update was to further demonstrate the importance for civil society to engage in standardization in order to improve, strengthen and add legitimacy to the European Standardization System.

ONLINE STANDARDIZATION JOURNEY FOR SMES

The CEN and CENELEC SME Toolbox of Solutions is an online journey that allows SMEs to better understand how using standards can benefit their business, how they can identify the standards relevant to them and how they can get support from the CEN or CENELEC members in their country in order to shape the content of future standards.

In 2021, CEN and CENELEC, with the support of the CEN and CENELEC SME Working Group, revised all SME-dedicated material that was incorporated in the new CEN and CENELEC website, including the SME Toolbox of Solutions, National SME helpdesks, as well as collected new success stories and testimonials from SMEs across Europe on their participation in Standardization.

COOPERATION WITH EUROPEAN ORGANISATIONS

The CEN-CENELEC Guide 25 provides CEN and CENELEC's policy guidelines towards building collaborations with European organisations, associations and other recognised stakeholders that have an interest in European standardization. The Guide covers six categories of cooperation within CEN and CENELEC, and is key to further strengthening the overall participation of European stakeholders to standardization work for an inclusive European Standardization System.

In 2021, following the adoption of the CEN and CENELEC Strategy 2030, Guide 25 was revised to provide clarification on several aspects, including the criteria defining the different categories of cooperation and the use of inclusive language.

PROMOTING GENDER RESPONSIVE STANDARDIZATION

CEN and CENELEC, together with their members, are committed to offering a transparent, open and inclusive system as the gateway for standardization in Europe. CEN and CENELEC signed the UNECE declaration on Gender Responsive Standards and Standards Development in 2019, together with more than 20 Members of CEN and CENELEC as individual signatories, as a sign of collective commitment for gender equity in standardization.

CEN and CENELEC are proud to join other national and international standardization bodies in making the standard development process more gender-responsive and help achieve Goal 5 of the United Nations' Sustainable Development Goals for 2030, 'Achieve gender equality and empower all women and girls'. CEN and CENELEC's commitments include promoting the Declaration, designing and proactively implementing a Gender Action Plan (2019-2022), and monitoring progress by collecting and sharing success stories and best practices with their Members and further raising awareness about the importance and benefits of more gender diversity in standardization in Europe.

In 2021, the CEN and CENELEC Informal Coordination Group on Gender Diversity & Inclusion, created under the Gender Action Plan, continued its efforts towards supporting gender equality in standardization with various activities, such as a dedicated Webinar on 'Inclusive European Standardization: the case of Gender' in collaboration with SIS and BSI.

TRAININGS IN 2021

FOR STANDARDIZATION EXPERTS

In 2021, CEN and CENELEC continued ensuring business continuity by organising numerous online webinars and trainings.

SECTORIAL TRAININGS

Different trainings were organised focusing on specific sectorial standardization topics. Amongst others:

- Mobility
- Construction
- Environment & sustainability
- Environment
- Environment
- Ergonomics

IT TOOLS TRAININGS

In 2021, CEN and CENELEC organised two different webinars updating the IT managers of the different member organisations about the CEN and CENELEC IT projects plan (May and November)

DEDICATED WEBINARS

- CEN Documents Kick-off
- Presentation different chunk CEN documents
- Online Collaborative Authoring

WEBINARS FOR STANDARD DRAFTERS

Two webinars were organised specifically for the CEN and CENELEC Standard Drafters.
The first one explained how to use MS Word more confidently and efficiently when drafting standards. A second one focused on the correct use of the Simple Template for CEN and CENELEC.

WEBINARS ON HARMONIZED STANDARDS

Just before the summer, CEN and CENELEC organised two different sessions of the webinar 'Harmonized European standards: Drafting standards compliant with EU legislation' that attracted almost 800 participants.
In addition, three webinars on harmonized standards for particular directives were organised and attracted many participants:

- Harmonized Standards for the Machinery Directive
- Harmonized Standards for the Low Voltage Directive
- EMC matters in relation to harmonized standards

FLEXIBLE STANDARDIZATION PROCESS

One year after the implementation of the Flexible Standardization Process (1 April 2020), CEN and CENELEC made available dedicated recordings with a CEN and a CENELEC Technical Body Officer sharing their best practices for a successful implementation of the Flexible Standardization Process in their work. Results are available in the hyperlinks.

YEARLY TRAINING FOR TECHNICAL BODY OFFICERS

In 2021, the training for Technical Body Officers was again held as a fully digital event. In addition of the package of recorded sessions on various topics, attendees could join live sessions and raise their questions in relation to:

- CEN standardization system
- CENELEC standardization system
- CEN IT Tools
- CENELEC IT Tools

The complete educational package for new Technical Body Officers is available as recordings of the presentations in the playlist on YouTube.

TRAININGS IN 2021

FOR A WIDER AUDIENCE

10-10 WEBINARS

Seven different 10-10 webinars were organised on dedicated topics, meeting the needs and interests of the CEN and CENELEC Technical Body Officers, but also open to interested National Members, Partners and Stakeholders. 10-10 webinars are 30-minutes webinars providing the attendees with information regarding the latest developments in standardization and on specific topics that could have a direct impact on technical work.

CEN and CENELEC kicked-off 2021 with the announcement of the CEN and CENELEC Strategy 2030, ⊖ the first 10-10 webinar focused on the Strategy, following a #Strategy2030 social media campaign involving our different stakeholders.

Other topics covered by the 10-10 webinars:

- State of play on the Standardization Requests
- Inclusive European Standardization: Gender
- Standardization in Horizon Europe
- Lessons learned from the COVID 19 crisis
- Addressing environment issue in standardization
- We closed down 2021 with a 10-10 webinar presenting the changes introduced in the CEN and CENELEC bylaws

⊖ Link to all 10-10 webinars.

RAISING AWARENESS AND VISIBILITY

Through their communication work, CEN and CENELEC aim to reinforce the visibility of the European Standardization System among all relevant stakeholders and the general public. In our activities, we are regularly employing various communication channels – both online and offline - to increase knowledge and generate awareness the value and benefits of standards, targeting businesses and industries (small and large), regulators and policymakers, researchers and scientists, the education and training sector and environmental, consumer and union organisations. In 2021 CEN and CENELEC continued with their process of digitalisation, shifting their communication activities fully online, taking advantage of the latest technologies to continue promoting the latest developments in European standardization to a wide and varied audience.

PUBLICATIONS ISSUED IN 2021

Over the course of 2021, CEN and CENELEC developed a wide series of publications that showcased their European standardization activities to a varied public. Building on the intention to decrease all print publications for CEN and CENELEC to fully 'go green' and taking advantage of new technologies, all 2021 publications were digital.
All publications are available online at this link.

CEN AND CENELEC WORK PROGRAMME 2022

An overview of the most significant standardization activities for implementation by CEN and CENELEC in 2022.

DIGITAL IN STANDARDS

Brochure on how standards can support the digital transition and on the new potential fields for standardization in digital technologies.

STANDARDS@RAIL

This publication was developed on the occasion of the European Year of Rail to showcase the role standards play for the European rail sector.

ANNUAL REPORTS OF CEN AND CENELEC FOR 2020

Information on CEN activities, CENELEC activities and joint activities in 2020.

GLOBAL ACCESSIBILITY AWARENESS DAY

This information leaflet provides guidelines to CEN and CENELEC's technical bodies on how to include accessibility aspects in their standards development work.

LESSONS LEARNT DURING THE COVID PANDEMIC

This report presents the best practices and lessons learnt from the CEN and CENELEC community in managing the Covid-19 emergency.

www.cencenelec.eu

eNEWSLETTERS

'ON THE SPOT' CEN AND CENELEC eNEWSLETTER

On the Spot is the most widely disseminated newsletter of CEN and CENELEC, mailed regularly every month and read by on average 3000 recipients every month. In 2021, the On the Spot newsletter counted 10 issues.

CEN AND CENELEC ACTIVITIES IN BRUSSELS

Monthly newsletter for update on CEN and CENELEC activities planned (*mainly in Brussels*) for the following month.

BT NEWSLETTER

issued following the meetings of the CENELEC and CEN Technical Boards and reporting on the main outcomes of discussions.

PRESS RELEASES AND BRIEF NEWS

Total: **85** news

12 PRESS RELEASES:
publicising agreements with stakeholders, important events or official positions, they are official communications and are circulated widely among journalists, members and other stakeholders

73 BRIEF NEWS:
communicating about a wide array of topics and activities undertaken by CEN and CENELEC of interest to stakeholders, such as new standards, relevant initiatives and others

EVENTS

Events being a key pillar for promoting the standardization work of CEN and CENELEC and for engaging with relevant stakeholders involved in this process, the Covid-19 pandemic also required both organisations to rethink their approach and find alternative ways to bring these meetings to interested participants.
Building on the already established experience of 2020, in 2021 we continued organising virtual and hybrid events. Adopting a hybrid approach enabled us to minimise disruption, not only by taking into account limitations and allowing attendance irrespective of travel restrictions but also by helping us to reach an even wider audience than before.

In 2021, we organised **6 EVENTS,**
attracting a total of **5950 PARTICIPANTS**

More info on events

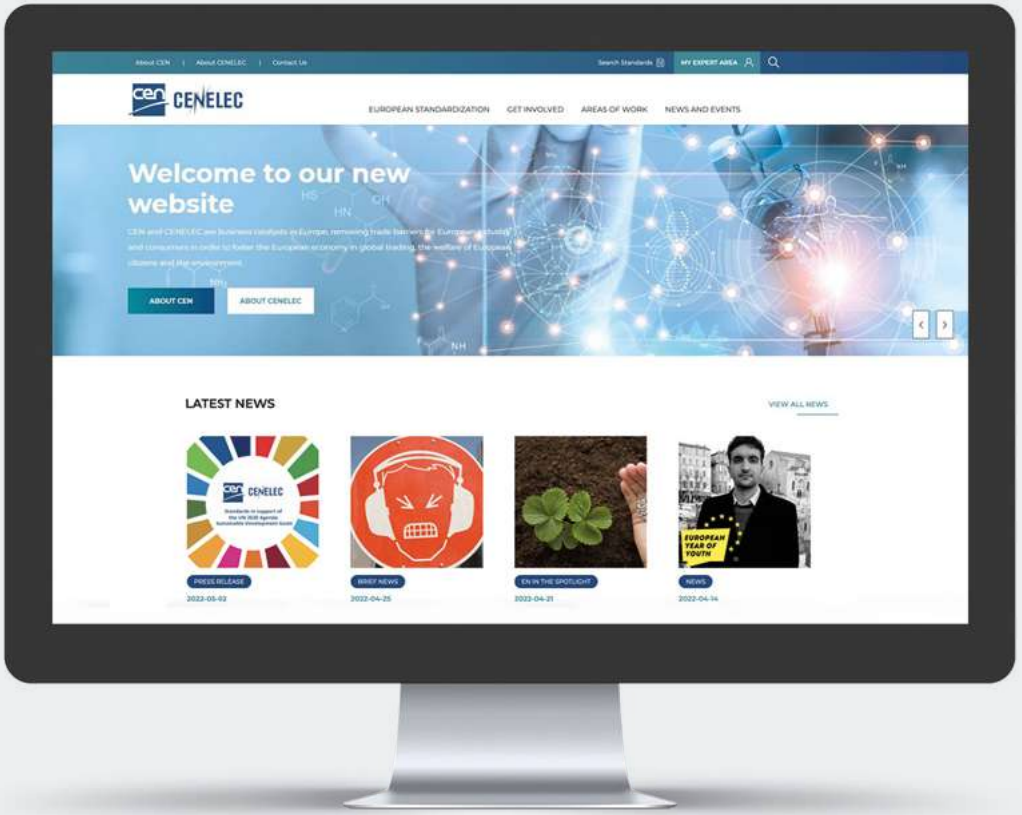
eCOMMUNICATION

CEN AND CENELEC NEW WEBSITE

2021 was a year of transition with the launch of the new CEN-CENELEC website in September. Moving from 3 websites (www.cen.eu, www.cenelec.eu, www.cencenelec.eu) into one single interface that incorporates CEN and CENELEC dedicated experts areas, enabled us to make a clearer distinction between information that is available to the general public and the information that is dedicated to experts in particular.

The revamped website aims at offering a more tailored content for the general public with increased visibility on news, events and trainings/webinars, as well as for our main stakeholders (Members, Industry, EU/EFTA) with a dedicated entry point for consumers, SMEs and Societal Stakeholders.

New website: www.cencenelec.eu



www.cencenelec.eu

eCOMMUNICATION

SOCIAL MEDIA ENGAGEMENTS IN 2021

Facebook

3 927 followers

+3,6%

facebook.com/CENCENELEC

Twitter

12 262 followers

+9,5%

twitter.com/Standards4EU

LinkedIn

12 097 followers

+31,2%

linkedin.com/company/cen-and-cenelec

YouTube

940 followers

+62,6%

youtube.com/CENCENELEC

eCOMMUNICATION

SOCIAL MEDIA CAMPAIGNS

INTERNATIONAL WOMEN'S DAY 2021

On the occasion of the International Women's Day (8 March) we joined forces with our members SIS and BSI for a dedicated webinar on Inclusiveness of European Standardization, with a focus on Gender, and took the opportunity to highlight our activities related to inclusiveness and gender balance with a social media campaign, available under the thread:

https://twitter.com/Standards4EU/status/1368820765697708036

EU GREEN WEEK

At the end of May 2021, on the occasion of the EU Green Week – an annual conference hosted by the European Commission to debate and discuss European environmental policy - CEN and CENELEC developed a small online campaign presenting a series of standards contributing to the fight against transport air pollution.

The campaign is available here:

https://twitter.com/Standards4EU/status/1400425691833851906

eCOMMUNICATION

SOCIAL MEDIA CAMPAIGNS

EUROPEAN YEAR OF RAIL

For the European Year of Rail, organised by the European Commission for 2021, CEN and CENELEC engaged throughout the year in several activities to showcase the role of standards for the railway sector. As part of the campaign, CEN and CENELEC produced the following elements:

- Trainings on harmonized standards in the rail sector with a CEN and CENELEC Guide and Podcast series.
- A series of video interviews with experts from the railway sector.
- A dedicated comic factsheet.
- A joint workshop with Shift2Rail.
- And a joint video.

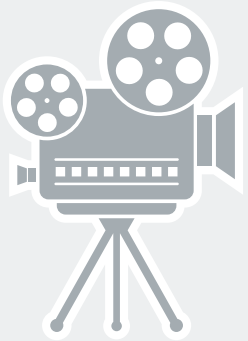
STRATEGY 2030

In the second half of 2021, CEN and CENELEC ran a social media campaign dedicated to the **CEN and CENELEC Strategy 2030.** The campaign consisted of the regular (weekly or bi-weekly) publication of quote cards on Twitter seeing the participation of representatives of CEN and CENELEC extended community: Members, Partners, Members of the CEN and CENELEC Boards, TC Chairs, as well as European policy makers.

The campaign consisted in total of 20 participants and can be seen – as a thread - here:

https://twitter.com/Standards4EU/status/1471034168897323013

AUDIOVISUAL



CEN and CENELEC had a busy year in 2021, working on topics such as their ten-year plan in the context of their joint Strategy 2030, Standards+Innovation and the European Year of Rail. With more and more events progressing into hybrid and online formats, video campaigns have been a vital asset for creating more vibrant and personal engagement between CEN, CENELEC and their online audience. These items transfer towards a more dynamic narrative about the standardization activities of Europe.

All videos can be accessed on CEN and CENELEC's Youtube channel at this link:

https://www.youtube.com/user/CENCENELEC

Some of the subjects covered by videos published by CEN and CENELEC in 2021 include:

European Year of Rail
https://www.youtube.com/watch?v=A8XeZV9ldAs&list=PLdF-R_TmJXfj33JcYGTLI-VENF_PYF7So

Innovation in transport
https://www.youtube.com/watch?v=IDV1_sVer8Q

Launch of the New Website
https://www.youtube.com/watch?v=Mwq9w8ceCX0

Strategy 2030
https://www.youtube.com/watch?v=IDV1_sVer8Q

Standards + Innovation
https://www.youtube.com/watch?v=2fWW0V2k-P8

Faces of Standardization (60th Anniversary)
https://www.youtube.com/watch?v=dQAz_s6BJ9c

STANDARDIZATION ACTIVITIES IN 2021

STANDARDIZATION ACTIVITIES PER SECTOR

	Deliverables* at the end of 2021	Deliverables* in 2021	Technical Bodies at the end of 2021
Chemicals	1411	102	23
Construction	3340	165	83
Consumer	951	60	24
Defence and security	324	24	26
Digital Society	2559	119	47
Electrotechnology	3544	189	85
Energy and utilities	2247	194	79
Food and agriculture	739	45	20
Healthcare and health & safety	1843	140	40
Household appliances and HVAC	791	64	25
Mechanical and machinery	2453	229	82
Mining and metals	1023	57	23
Services	423	27	35
Transport and vehicles	4318	200	43

** excluding guides*

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NEW TECHNICAL COMMITTEES

In 2021, several Technical Bodies were set up to ensure the development of new standardization topics that fell outside the scope of existing Technical Bodies.

Construction

- Test method for the evaluation of the adhesive properties of fibre reinforced polymer composite joints (CEN/WS 115)

Defence and security

- City Resilience Development - Framework and guidance for implementation in historic areas (CEN/WS ARCH)
- Urban search and rescue - Guideline for the application of a test method for innovative technologies to detect victims in debris (CEN/WS CURSOR)

Digital Society

- Artificial Intelligence (CEN/CLC/JTC 21)
- Digital Sovereignty (CEN/CLC/WS DS)

Energy & Utilities

- Design and Construction Code for mechanical equipments of innovative nuclear installations (European Sustainable Nuclear Industrial Initiative) (CEN/WS 064 Phase 1)
- Design and Construction Codes for Gen II to IV nuclear facilities (pilot case for process for evolution of AFCEN codes) (CEN/WS 064 Phase 2)
- Design and Construction Codes for Gen II, III and IV nuclear facilities (CEN/WS 064 Phase 3)
- High temperature accelerated ageing of advanced ceramic specimens for solar receivers and other applications under concentrated solar radiation (CEN/WS NEXTOWER)
- The Standardisation of the Impression Creep Test (CEN/WS SICT)

Healthcare and Health & Safety

- Animal health diagnostic analyses (CEN/TC 469)

Mechanical and machinery

- European Connected Factory Platform for Agile Manufacturing Interoperability (CEN/CLC/WS EFPFInterOp)
- Lens-based adaptor system for coupling fibre optic to laser sources (CEN/CLC/WS MIRACLE)

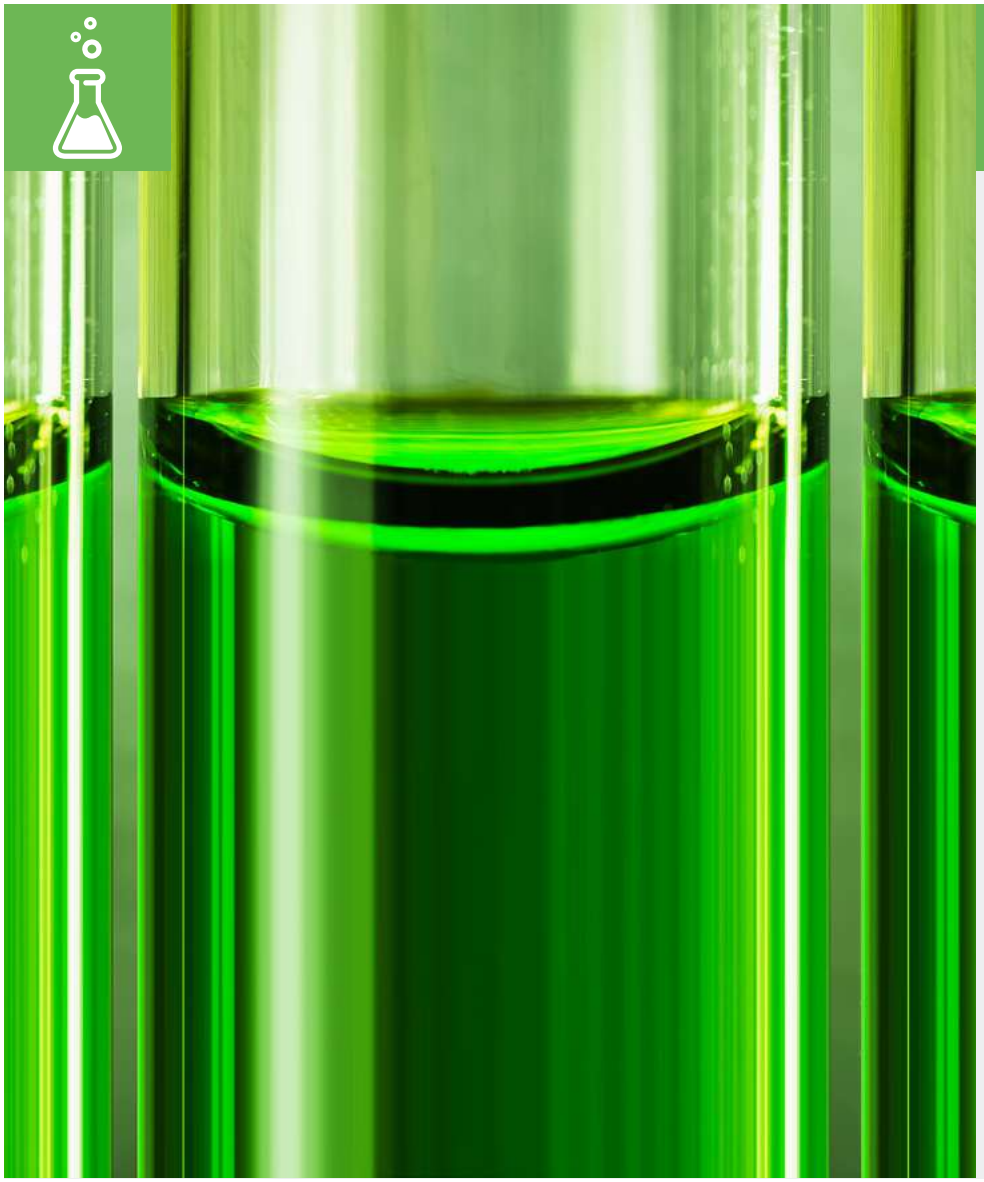
Services

- A Methodology for Measurement of Worker Satisfaction (CEN/WS 114)
- Safety in close human-robot interaction: procedures for validation tests (CEN/WS COVR)
- Response to COVID-19 - Health and safety protocols for tourism establishments and services (CEN/WS EUROSAFETOUR)
- Future of Social Responsibility (CEN/WS FSR)

Environment

- KEY-BIOWASTE (CEN/WS KEY-BIOWASTE)

BUSINESS SECTORS



CHEMICALS

Sustainability, safety and circular value chains related to chemicals and chemical products are at the heart of a clean and green environment and key to ensuring better human health.

Standardization in the domain of chemicals and chemical products aims at creating a market for secondary raw materials and identifying sustainable solutions, contributing to the EU Circular Economy and the Green Deal.

PLASTICS

CEN/TC 249 'Plastics' develops standards related to terminology, test methods, specifications, classifications and designation systems, environmental aspects, joining systems and techniques of plastics, plastic-based materials, semi-finished products and products.

In 2021, relevant stakeholders have contributed to the preparation of the upcoming Standardization Request 'Plastic Recycling and Recycled Plastics', to be issued in the frame of the Circular Plastic Alliance, of which CEN and CENELEC are signatories. A list of possible revisions and new deliverables has been provided to the European Commission. On the basis of this list, in December 2021, the European Commission also circulated a first draft of the Standardization Request. CEN/TC 249 'Plastics' and other relevant Technical Bodies will develop standards based on this Standardization Request.

CEN/TC 249 also published five European standards, including EN 15344:2021 'Plastics - Recycled plastics - Characterization of Polyethylene (PE) recyclates', and EN 17410:2021 'Plastics - Controlled loop recycling of PVC-U profiles from windows and doors'. CEN/TC 249 has also adopted several ISO standards, such as EN ISO 14852:2021 'Determination of the ultimate aerobic biodegradability of plastic materials in an aqueous medium - Method by analysis of evolved carbon dioxide', and EN ISO 14632:2021 'Extruded sheets of polyethylene (PE-HD) - Requirements and test methods'.

FERTILIZERS

In the frame of Standardization Request M/564 (Fertilizers) and in support of Regulation (EU) 2019/1009, CEN/TC 223 'Soil improvers and growing media', CEN/TC 260 'Fertilizers and liming material' and CEN/TC 455 'Plant biostimulants' submitted the Technical Specifications drafts to vote and continued working on the European Standards.

These deliverables will ensure full harmonization of the European Single Market - granting producers access to CE marking – and will play a pivotal role in boosting the use of organic and bio-waste-based fertilisers. In the same way, they will provide testing methods for safety and environmental criteria, such aspathogen detection and contaminants determination.

In 2021, the three TCs also provided input for the Standardization Request amending M/564 – (notified to CEN in January 2022).

EXPLOSIVES FOR CIVIL USE

Since 2016, the 'Explosives for Civil Use' Directive 2014/28/EU has been applicable within the EU, with a scope including blasting for mining and aiming at achieving a secure, safe and competitive market within the EU. In 2021, in the frame of the Standardization Request M/562 (Explosives for civil uses), CEN/TC 321 'Explosives for civil use' has submitted to the enquiry phase more than 50 harmonized Standards in support of the Explosives for Civil Use Directive, establishing safety requirements, terminology, categorisation and test methods.

PYROTECHNIC ARTICLES

In 2021, CEN/TC 212 'Pyrotechnic articles' continued working on the revision of the series EN 15947 (parts 1-5) on 'Pyrotechnic articles - Fireworks, Categories F1, F2 and F3', mandated under Standardization Request M/416 and in support of Directive 2013/29/EU. Through the Standardization Request Ad Hoc Group (SRAHG) 'Pyro', the TC also contributed to the consultation on the draft Standardization Request that will replace M/416.

PAHs IN RUBBER AND PLASTICS

CEN/TC 462 ‘Regulated chemicals in products’ develops standard under the Standardization Request on 'Polycyclic Aromatic Hydrocarbons (PAHs) in rubber and plastic components of articles placed on the market for supply to the general public' (M/556). In 2021, CEN/TC 462 identified a method for the determination of the total content of PAHs in articles with rubber and plastic components, which will be validated in the next phase through an interlaboratory study.

METHODS FOR ANALYSIS OF ALLERGENS

In 2021, CEN/TC 347 'Methods for analysis of allergens' worked on the revision of EN 1811 ‘Reference test method for release of nickel from all post assemblies which are inserted into pierced parts of the human body and articles intended to come into direct and prolonged contact with the skin’, under Standardization Request M/414 (Detection of nickel release), which provides methods required in the REACH Regulation for the restriction of nickel. The TC also published EN 16274:2021 'Method for analysis of allergens - Quantification of an extended list of 57 suspected allergens in ready to inject fragrance materials by gas chromatography mass spectrometry'.

NANOTECHNOLOGIES

CEN/TC 352 ‘Nanotechnologies’ pursued its activity on vocabulary and test methods standards in collaboration with ISO/TC 229 through the publication of CEN ISO/TS 80004-6:2021 'Nanotechnologies - Vocabulary - Part 6: Nano-object characterization" and two CEN ISO/TSs on test methods. Additionally, CEN/TC 352 published' CEN/TS 17629:2021 'Nanotechnologies - Nano- and micro- scale scratch testing'.

ALGAE AND ALGAE PRODUCTS

CEN develops European Standards and other deliverables (Technical Reports and Specifications) covering horizontal aspects of bio-based products as well as standards for specific bio-based product groups such as bio- based lubricants, polymers, surfactants and solvents. Recently, CEN has also started to work on standards and other deliverables on algae and algae products.

CEN/TC 454 ‘Algae and algae products’ was established in 2017 and its covers the specification, classification, terminology and determination methods for algae (general) and algae-based products. In addition, guidance on the specific application of algae products as feedstock or intermediates for energy and non-energy products may be developed.

In 2021, CEN/TC 454 published:

EN 17480:2021 'Algae and algae products - Methods for the determination of productivity of algae growth sites', which specifies the methods to be used for the determination of productivity of algae growth sites;

- EN 17477:2021 'Algae and algae products - Identification of the biomass of microalgae, macroalgae, cyanobacteria and Labyrinthulomycetes - Detection and identification with morphological and/or molecular methods', this document describes a toolbox, consisting of several identification methods that can be chosen, according to the applicability and purpose of the identification;
- CEN/TR 17611:2021 'Algae and algae products - Specifications for cosmetic sector applications', which gives an overview of recommendations on product specifications, and other relevant information, for algae and algae products for the cosmetics industry;
- CEN/TR 17559:2021 'Algae and algae products - Food and feed applications: General overview of limits, procedures and analytical methods', which describes quality designations and indications for algae and directly derived products from algae production required for or by food/feed/nutraceuticals/animal food producers and industry;
- CEN/TR 17612:2021 'Algae and algae products - Specifications for pharmaceutical sector applications', which gives an overview of recommendations on product specifications, and other relevant information, for algae and algae products for pharmaceutical applications;
- CEN/TR 17739:2021 'Algae and algae products - Specifications for chemicals and biofuels sector applications', which provides an overview on how quality indicating parameters for algae and algae products and intermediates, relevant for chemical and bioenergy applications, can be handled and to identify the need for future standards development for chemicals, bioenergy and biofuels applications.

These documents were developed under M/547 (Algae), a European Commission standardization request on algae and their products.

BUSINESS SECTORS

CONSTRUCTION

The construction sector contributes to our society by making our built environment a safe and pleasant place to live in. For this reason, European Standards (ENs) are developed with the objective to set out performance characteristics and assessment methods for construction products and materials and to provide the requisite testing and/or calculation methods for them.

Harmonized European Standards (hENs), developed by more than 90 Technical Committees, are an essential tool for the application of the Construction Products Regulation (CPR) - Regulation (EU) No 305/2011 - and for the fulfilment of national building regulations.

STANDARDS FOR THE CPR

In 2021, CEN and CENELEC were invited to participate in the CPR (Construction Products Regulation) acquis. CEN/TCs representatives were appointed and contributed to the work for the two top priority product families: M/100 Precast concrete (Subgroup 1) and M/120 Structural metallic products (Subgroup 2).

CEN and CENELEC revised the guidance document 'Core rules for drafting harmonized standards for construction products' and established a construction checklist to help Technical Committees to prepare harmonized standards (hENs) in support of the CPR.

Additionally, in 2021, CEN and CENELEC and the European Commission held various meetings to discuss how to increase the citation of harmonized standards (hEN) under the CPR in the OJEU. At last, CEN and CENELEC and EC continued to work on two pilot standards for construction to define a 'model standard' that can be followed by other TCs when drafting hENs for construction products under CPR.

STRUCTURAL EUROCODES

Eurocodes are a comprehensive set of standards that relate to the design of building and civil engineering works. In response to the European Commission's request M/515 'Mandate for amending existing Eurocodes and extending the scope of structural Eurocodes', CEN/TC 250 'Structural Eurocodes' established a series of project teams. In 2021, CEN/TC 250 finalised the following deliverables:

- CEN/TS 19100-1:2021 'Design of glass structures - Part 1: Basis of design and materials' provides design rules for mechanically-supported glass components and requirements for resistance, serviceability, fracture characteristics and glass component failure consequences in relation to human safety, robustness, redundancy and durability of glass structures.
- CEN/TS 19100-2:2021 'Design of glass structures - Part 2: Design of out-of-plane loaded glass components' provides structural design rules for mechanically supported glass components primarily subjected to out of plane loading.
- CEN/TS 19100-3:2021 'Design of glass structures - Part 3: Design of in-plane loaded glass components and their mechanical joints' provides design rules for mechanically supported glass components primarily subjected to in-plane loading.

SUSTAINABILITY OF CONSTRUCTION WORKS

CEN/TC 350 'Sustainability of construction works' is responsible for the development of horizontal standardized methods for the assessment of sustainability aspects of new and existing construction works (buildings and civil engineering works), including standards for environmental product declarations (EPD).

In 2021, CEN/TC 350 has continued developing standards in response to Standardization Request M/350 (Environmental performance of buildings). It started the revision of EN 15978-1 'Sustainability of construction works - Methodology for the assessment of performance of buildings – Part 1: Environmental Performance', which will provide a methodology for determining the environmental performance of buildings. It also published EN 15643:2021 'Sustainability of construction works - Framework for assessment of buildings and civil engineering works', and EN 15942:2021 'Sustainability of construction works - Environmental product declarations - Communication format business-to-business'.

To address important environmental initiatives, such as the European Green Deal and the New Circular Economy Action Plan, a Subcommittee was created in 2020 within CEN/TC 350 to deal specifically with circular economy in the construction sector.

In 2021, CEN/TC 350/SC 1 'Circular Economy in the Construction Sector' started defining the standardization priorities and its work programme. In the specific, two Working Groups were launched: CEN/TC 350/SC 1/WG 1 'Framework, principles and definitions' and CEN/TC 350/SC 1/WG 2 'Gap analysis, conclusions and recommendations'.

RELEASE OF DANGEROUS SUBSTANCES

CEN/TC 351 'Construction Products - Assessment of release of dangerous substances' develops harmonized test methods to monitor the release of dangerous substances from construction products. In May and June 2021, CEN/TC 351 organised a webinar and a workshop about asbestos fibres in construction products, addressed to manufacturers of construction products containing recycled materials, laboratories, regulators, and others. The scope of the events was to collect views and recommendations on the development of the CEN/TS on the methodology to determine asbestos fibres in construction products.

ARCHITECTURAL, CONSTRUCTION SERVICES, ENGINEERING AND INSPECTION SERVICES

In 2021, CEN/TC 346 'Conservation of Cultural Heritage' published the following standards:

- EN 17488 'Conservation of cultural heritage - Procedure for the analytical evaluation to select cleaning methods for porous inorganic materials used in cultural heritage' provides the test methodology for evaluation of both harmfulness and effectiveness of a cleaning method as applied to porous inorganic materials.
- EN 17543 'Conservation of Cultural Heritage - Finishes of built heritage - Investigation and documentation'defines best practice for collecting data and processing findings when investigating finishes on built heritage.

CONSTRUCTION PRODUCTS, STRUCTURES AND MATERIALS; AUXILIARY PRODUCTS TO CONSTRUCTION (EXCEPT ELECTRIC APPARATUS AND TANKS)

In 2021, CEN/TC 295 'Residential solid fuel burning appliances' initiated the development of EN 16510-1 'Residential solid fuel burning appliances - Part 1: General requirements and test methods' and the following standards under the standardization request M/577 in support of the CPR:

- EN 16510-2-6 'Residential solid fuel burning appliances - Part 2-6: Mechanically by wood pellets fed roomheaters, inset appliances and cookers'.
- EN 16510-2-4 'Residential solid fuel burning appliances - Part 2-4: Independent boilers - Nominal heat output up to 50 kW'.
- EN 16510-2-1 'Residential solid fuel burning appliances - Part 2-1: Roomheaters'.
- EN 16510-2-2 'Residential solid fuel burning appliances - Part 2-2: Inset appliances including open fires'.
- EN 16510-2-3 'Residential solid fuel burning appliances - Part 2-3: Cookers'.

In 2021, CEN/TC 129 'Glass in building' published EN 17416 'Glass in building - Assessment of release of dangerous substances - Determination of emissions into indoor air from glass products', which provides specific rules for the assessment of the release on dangerous substances from glass products into indoor air of buildings.

Still in 2021, CEN/TC 134 'Resilient, textile and laminate floor coverings' initiated the development of EN 17861' Resilient, textile, laminate and multilayer modular Floor coverings — Circular Economy — Terms and definitions' which will contribute to the goals of the EU Circular Economy Action Plan.

Furthermore, CEN/TC 229 'Precast concrete products' initiated the development of EN 16757 'Sustainability of construction works - Environmental product declarations - Product Category Rules for concrete and concrete elements' and EN 13369 'Common rules for precast concrete products'.

BUILDING INFORMATION MODELLING

In 2021, CEN/TC 442 'Building Information Modelling' developed the following deliverables published by CEN:

- CEN/TR 17741 'Guidance for understanding and utilize EN/ISO 29481-1 Building information models - Information delivery manual - Part 1: Methodology and format';
- CEN/TR 17654 'Guideline for the implementation of Exchange Information Requirements (EIR) and BIM Execution Plans (BEP) on European level based on EN ISO 19650-1 and -2'.

BUSINESS SECTORS

CONSUMER

In 2021, the European Commission published a Proposal for a new Regulation on General Product Safety – GPSR (COM/2021/346) to modernise the general framework for safety of non-food consumer products.

The overall aim is to take stock of a number of trends affecting consumer markets and the related challenges. Incidents linked to Covid-19 have further highlighted some of these trends, for example the increasing use of online sales channels and the need to ensure safety for consumers in this context.

One of the main objectives of the European Union through its consumer safety legislation is to ensure that only safe products are available on the European single market.

European standards (EN) have always had a huge role to play in fulfilling this ambition. This important role is highlighted in a Position Paper drafted and published by CEN and CENELEC in response to a stakeholder's consultation launched by the European Commission for the revision of the General Product Safety Directive (2001/95/EC).

CONSUMER GENERAL

Currently, 24 CEN and CENELEC Technical Committees are carrying out standardization activities regarding consumer products. They fall mainly in the area of the General Product Safety Directive (GPSD 2001/95/EC) but are also concerned by several other pieces of European legislation (Toys, Textile, PPE, etc.).

A large proportion of the standards in this sector are thus drafted at the request of the European Commission in response to standardization requests.

CEN also develops standards in parallel with its international counterpart ISO in sectors such as footwear, sport equipment or textiles, leading to the publication of European and international standards.

CONSUMER CLOTHING, FOOTWEAR AND ACCESSORIES

The need for community face coverings was acknowledged during the SARS-CoV-2 pandemic and an initial deliverable was developed by CEN to support this urgent need: CWA 17553:2020 'Community face coverings - Guide to minimum requirements, methods of testing and use'. In 2021, CEN/TC 248 'Textiles and Textile products' continued this important work towards the establishment of a higher consensus deliverable (European Technical Specification prCEN/TS 17553) on community face coverings.

Further development work was achieved in the area of child safety to prevent choking and strangulation with two new CEN Technical Specifications (CEN/TS 17394:2021 Parts 1 and 3 'Safety of children's clothing').

CEN/TC 309 'Footwear' continued the technical cooperation with ISO and published, amongst other deliverables:

- EN ISO 16190:2021 'Footwear - Critical substances potentially present in footwear and footwear components - Test method to quantitatively determine polycyclic aromatic hydrocarbons (PAHs) in footwear materials'. This standard specifies a method to determine the amounts of polycyclic aromatic hydrocarbons (PAHs), which are restricted by several countries, including in the European Union by Commission Regulation (EU) 2018/1513, in footwear and its components.
- EN ISO 19957:2021 'Footwear - Test methods for heels - Heel pin holding strength'. This standard specifies a test method used both to measure the heel pin holding strength of heel materials by using a standard heel pin and a method of insertion, and to assess the heel nailing of commercial production.

FURNITURE, FURNISHINGS AND CLEANING PRODUCTS

CEN/TC 207 'Furniture' developed in 2021 a new standard for seating specifically intended for children who are able to walk and sit by themselves: EN 17191:2021 'Children's Furniture - Seating for children - Safety requirements and test methods'. This standard is developed under M/527, in support of the General Product Safety Directive (2001/95/EC).

GAMES AND TOYS

The main focus of CEN and CENELEC's work on toy safety is the development of European Standards in support of Essential Requirements laid down in the EU Directive on the Safety of Toys (2009/48/EC).

In 2021, CEN/TC 52 'Safety of Toys' revised and amended the following standards of the EN 71 series:

- EN 71-13:2021 'Safety of toys - Part 13: Olfactory board games, cosmetic kits and gustative games'. The standard has been updated to modify the closure test. For the cosmetic kits, it is now made clearer that the cosmetics shall only be used with the kit and that the kit is a multi-component cosmetic.
- EN 71-3:2019+A1:2021 'Safety of toys - Part 3: Migration of certain elements'. The amendment updates the standard to include both the new limit values for aluminium, and information that the limit new value for chromium (VI) for category III has become applicable.
- CEN/TR 17695:2021 'Safety of toys - Mechanical and physical properties - Guidance on categorisation of projectile toys within EN 71-1'. The Technical Report categorises different projectile toys in order to assist with the understanding of the corresponding requirements.

The European Commission published in November 2021 the Implementing Decision (EU) 2021/1992 with the latest list of toy safety standards for presumption of conformity with the Toy Safety Directive. All the proposed standards were referenced.

In support of new requirements in the Toy Safety Directive emerging from the update, CEN/TC 52 continued the preparation of a project which will result in the elaboration of five new European standards to allow users to test for the presence of chemicals in certain types of toys. Funding for this project has been granted by the European Commission.

CEN/TC 52 also continued to prepare itself in view of the new Standardization Request which is expected to provide a legal basis for harmonization of any new editions of existing European Standards or new European Standards on safety of toys, and which will replace the existing mandate M/445 issued in 2009.

SPORT GOODS

In 2021, CEN/TC 136 'Sports, playground and other recreational facilities and equipment' continued the revision of the EN ISO 25649-1 'Floating leisure articles for use on and in the water' series (Part 1 to 7) under M/372 in support of the General Product safety Directive (2001/95/EC).

For mountaineering equipment, the following European standards were developed or amended under M/571, in support of legislation Personal Protective Equipment (2016/425/EC).

- EN 17520:2021 ‘Mountaineering equipment - Personal belay lanyards - Safety requirements and test methods’;
- EN ‘892:2012+A2:2021‘Mountaineering equipment - Dynamic mountaineering ropes - Safety requirements and test methods’;
- EN ‘13089:2011+A2:2021 ‘Mountaineering equipment - Ice-tools - Safety requirements and test methods’.

For paragliding equipment, two amendments were published: EN 12491:2015+A1:2021 ‘Paragliding equipment - Emergency parachutes - Safety requirements and test methods’, and EN 926-2:2013+A1:2021 ‘Paragliding equipment - Paragliders - Part 2: Requirements and test methods for classifying flight safety characteristics’.

In the field of gymnastic equipment, the following amendment was published: EN 913:2018+A1:2021, ‘Gymnastic equipment - General safety requirements and test methods’.

With regards to cycling, CEN/TC 333 ‘Cycles’ developed in 2021:

- EN 17406:2020+A1:2021 ‘Classification for bicycles usage’. This standard provides a classification of bicycles usage and it includes a set of graphical indicator to provide retailers and consumers with an indication of the intended use of a particular bicycles or aftermarket components.
- CEN/TR 17653:2021 ‘Cycles - Components and assemblies used in bicycles - Innovative requirements and test methods’.

DEFENCE AND SECURITY

In a context of increasing globalisation and multi-scalar challenges, the European security environment has changed drastically over the last years. Societies are increasingly facing security threats and challenges that are growing in scale and sophistication. Citizens have become more concerned with security issues such as terrorism, cybersecurity, organised crime and border security, and there is a growing demand to increase their security accordingly. They have also become more concerned with their personal security, international crime, privacy and personal data protection.

CEN and CENELEC are committed to strengthening the industrial and technological base of the security sector and to empower industry with the right tools to operate in a more open and competitive EU market.

CEN-CENELEC SECTOR FORUM SECURITY

The CEN and CENELEC Technical Boards established the CEN and CENELEC Sector Forum on Security in January 2019.

The objectives of the Sector Forum on Security are to create, implement and conduct a broad European network of experts to consider matters of strategic importance to the security sector and to act as an advisory and coordinating body for standardization activities. Its aim is to be a reference point for CEN and CENELEC on political and strategic matters related to this field.

FIRE-FIGHTING EQUIPMENT

In 2021, CEN/TC 191 'Fixed firefighting systems' published part 3, 14 and 15 of the series EN 14972 'Fixed firefighting systems - Water mist systems'. It also published the following two standards:

- EN 17450-1 'Fixed firefighting systems - Water mist components - Part 1: Product characteristics and test methods for strainer and filter components' specifies product characteristics and test methods for strainer and filter components for water supply connections and pipe work in water mist systems;
- EN 17446 'Fire extinguishing systems in commercial kitchens - System design, documentation, and test requirements' establishes requirements applicable to the design, installation, functioning, test and maintenance of fixed automatic fire extinguishing systems for kitchen protection and requirements for the construction and components performance as applicable to specific types, designs, sizes and arrangements of pre-engineered kitchen fire-extinguishing systems.

In 2021, CEN/TC 192 'Fire and Rescue Service Equipment', together with ISO/TC 45, finalised the revision of EN ISO 14557:2021 'Fire-fighting hoses - Rubber and plastics suction hoses and hose assemblies (ISO 14557:2021)' introducing the UV resistance requirement and improving the tests.

EMERGENCY, SECURITY AND RELATED SUPPORT EQUIPMENT

In parallel with ISO/TC 292 ‘Security and resilience’, CEN/TC 391 ‘Societal and citizen security’ published, EN ISO 22300:2021 ‘Security and resilience - Vocabulary (ISO 22300:2021)’. The document defines terms used in security and resilience standards.

In 2021, CEN/TC 439 'Private security services' published the first part of a three-part series:

- EN 17483-1 ' Private security services - Protection of critical infrastructure - Part 1: General requirements', which includes the main overarching requirements for the provision of private security services for critical infrastructure.

CEN/TC 439 also prepared the development of subsequent parts to the EN 17383 series, for example in aviation security and port and maritime security, in order to meet market needs for quality standards.

CEN/CLC/JTC 4 'Services for fire safety and security systems' published EN 50710:2021 'Requirements for the provision of secure remote services for fire safety systems and security systems', which specifies the minimum requirements for the provision of secure remote services, via a remote access infrastructure (RAI), carried out either at site or off-site (e.g., via IP connections) to a number of security systems (such as fire safety, social alarm, and emergency sound).

BUSINESS SECTORS

DIGITAL SOCIETY

The European industry is rapidly transforming through the adoption of a wide range of innovative and digital technologies. Traditional sectors of the economy, including some which until recently were not exposed to digital tools, have digital transformation objectives that require standardization responses. Therefore, it is essential that products, systems and services are mutually compatible, secure and interoperable, so that information can be shared and people can communicate with each other. However, the digital transformation of businesses and societies does not come without costs and risks, and many of its applications have raised concerns related to transparency, privacy and security issues. European Standards support the uptake of digital technologies and are important tools to mitigate those risks.

CEN and CENELEC bring together representatives from a variety of backgrounds, such as industry, societal organisations, research, academia and policy makers, with the ambition to encourage innovation and technological development, ensure the protection of consumers, and facilitate cross-border trade. European Standards contribute to the EU Single Market and to an inclusive digital society. They represent one of the most critical issues for businesses approaching the global market.

DIGITAL SOCIETY GENERAL

CEN and CENELEC are committed to help Europe reap the benefits of digitalisation, by working to make the standardization system fit for the European digital society. Examples of CEN and CENELEC's efforts on digitalisation and new technologies are the work on Blockchain and Distributed Ledger Technologies (CEN-CLC/JTC 19) and the ongoing work on Cybersecurity (CEN-CLC/JTC 13, CLC/TC 65X), Artificial Intelligence (CEN-CLC Focus Group) and Quantum technologies (CEN-CLC Focus Group). Contributing to the uptake of digital technologies, the work on ICT skills and digital competencies (CEN/TC 428) supports the maturing of the ICT profession in all sectors, public and private.

Further to these horizontal topics, CEN and CENELEC are active in several digitally transforming sectors, through their footprint in vertical industries: intelligent transport systems (CEN/TC 278), eHealth (CEN/TC 251), Smart grids and Smart metering (amon others, CLC/TC 57 and CLC/TC 13) or advanced manufacturing (CEN/TC 310, CEN/TC 438).

CYBERSECURITY

In a world increasingly relying on digital technologies and data to function, opportunities go hand in hand with potential risks. For this reason, cybersecurity is at the centre of international and European efforts to minimise dangers for critical infrastructure and personal data, thus ensuring that individuals and companies, in all sectors, can benefit from new technologies.

In this context, CEN-CLC/JTC 13 'Cybersecurity and Data Protection' released in 2021 several European Standards that provide guidelines and requirements on privacy information management and information security management, in close connection with ISO/IEC JTC 1 SC 27. CEN-CLC/JTC 13 also further advanced work on prEN 17640 'Fixed-time cybersecurity evaluation methodology for ICT products' and on a future EN on 'Managed Security services providers requirements. It also finalised and published EN 17529 'Data protection and privacy by design and by default' in the frame of mandate M/530.

CEN-CLC/JTC 13 has also been an important contributor to ENISA's activities, in the frame of the development of European Cybersecurity certification schemes – notably through the participation of relevant experts in the Stakeholder Cybersecurity Certification Group (SCCG) - and started setting up mirroring activities to the ENISA ad hoc working group that will develop the EU 5G Cybersecurity certification scheme.

In this context, CEN/TC 224 'Personal identification and related personal devices with secure element, systems, operations and privacy in a multi sectorial environment' develops standards for strengthening the interoperability and security of personal identification and initiated work on a European standard for Secure and interoperable European Breeder Documents.

CLC/TC 65X 'Industrial-process measurement, control and automation' is another important contributor to cybersecurity standardization solutions, in close connection with IEC TC 65. Three working groups are active in the TC, contributing to the domains of 'Industrial Requirements for Wireless Communication (IRWC)', 'Smart Manufacturing', and 'Cyber security'. The TC is also responsible for development and maintenance of the EN IEC 62443 series 'Security for industrial automation and control systems', which is reviewed on a regular basis.

ARTIFICIAL INTELLIGENCE

CEN-CLC/JTC 21 ‘Artificial Intelligence’ takes over and continues the work of the previously existing CEN and CENELEC Focus Group on Artificial Intelligence (AI). It was established in 2021 to address AI’s challenges of deployment, interoperability, scalability, societal acceptability/concerns, safety and liability from a European perspective. JTC21 addresses European use cases, monitors the activities of its international counterpart ISO/IEC JTC 1/SC 42 and makes the bridge with European policymakers and ETSI, as well as starting the development of standardization deliverables to address European market and societal needs and to underpin primarily EU legislation, policies, principles, and values.

SMART LIVING

CLC/TC 205 'Home and Building Electronic Systems (HBES)' develops standards for all aspects of home and building electronic systems in relation to the Information Society. In 2021, CLC/TC 205 published a new standard on IoT Semantic Ontology Model Description (EN 50090-6-2:2021). In 2021, CLC/TC 205 started two new projects: 1) a standard on 3rd Party HBES IoT API (EN 50090-6-3); and 2) a Technical Specification on IT security and data protection - User Guide (TS 50491-7).

FINANCIAL SERVICES

In 2021, CEN was active in the field of financial services, notably through the work of CEN/WS XFS ‘eXtensions for Financial Services’, which develops specifications for software managing cash dispensers. With the aim of promoting a clear and unambiguous specification for both service providers and application developers CEN/WS XFS developed CWA 17852 ‘XFS4IoT Specification’ in 2021, which has been identified as a successor to the XFS 3.x.

INTELLIGENT TRANSPORT SYSTEMS

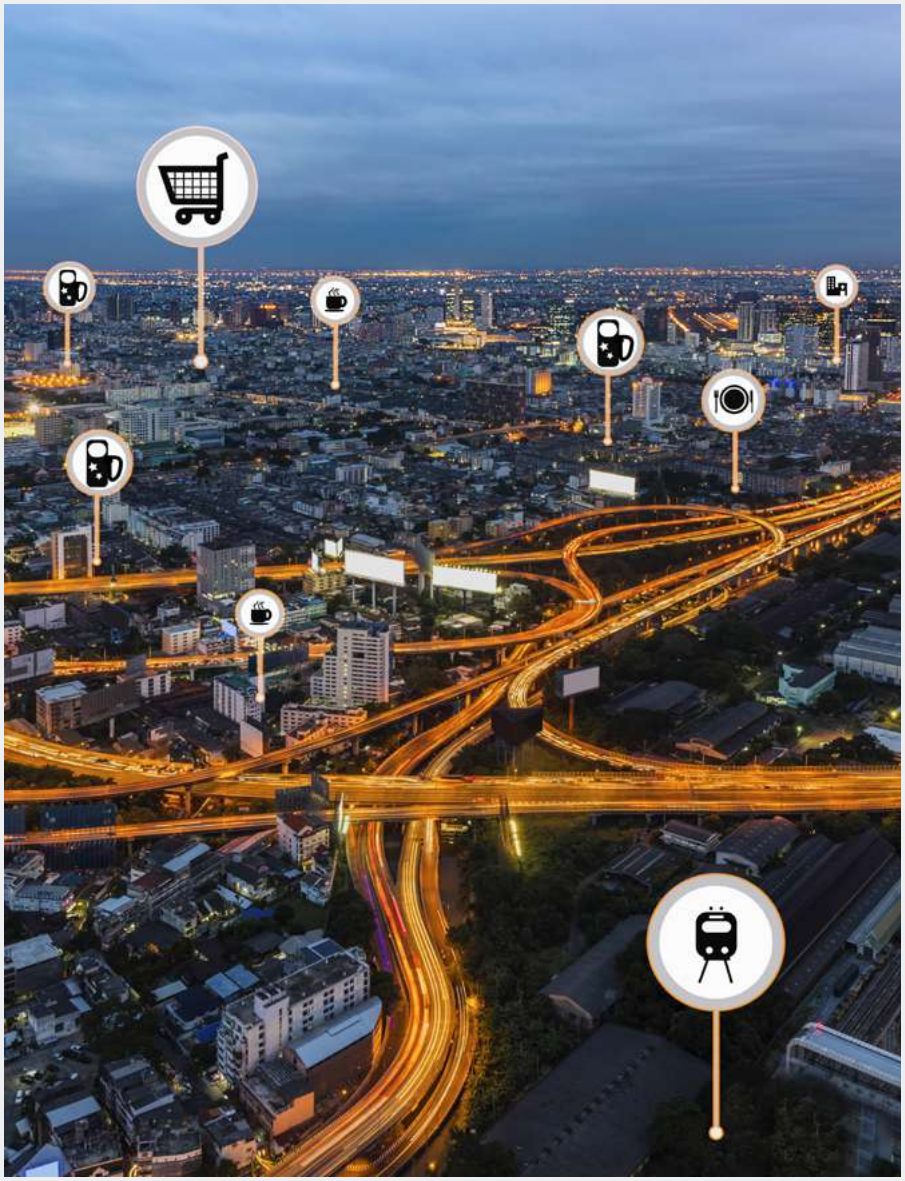
CEN/TC 278 ‘Intelligent Transport Systems’ develops European Standards and Technical Specifications within the domain of Intelligent Transport Systems (ITS) as a response to relevant Standardization Requests, notably M/338 (Interoperability of electronic road toll systems), M/453 (Interoperability of intelligent transports) and M/546 (ITS and interfaces with other modes of transport).

These standards cover aspects that include cooperative systems, travel and traffic information, route guidance and navigation, public transport, emergency vehicles and electronic fee collection.

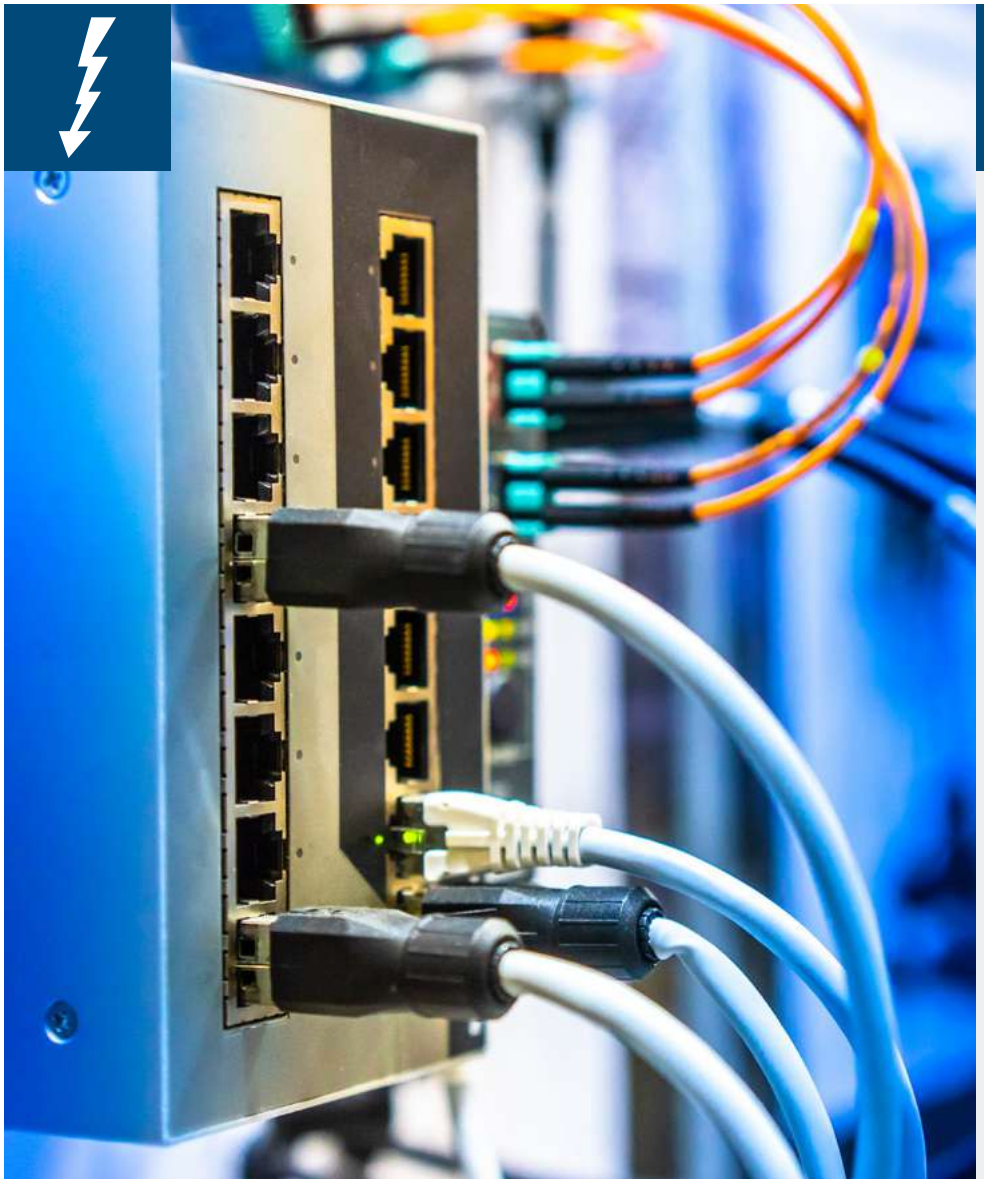
In its work, CEN cooperates closely with CENELEC, ETSI and ISO to ensure a coherent approach to standardization.

In 2021, CEN/TC 278 continued working on Urban ITS, and particularly the development of the so-called ‘EU-ICIP project’, with the objective to deliver an extensive overview of communications and data standards available in the field. This will enable the interoperability and regulated requirements for ITS in Europe, informing potential users of the compatibilities and incompatibility issues of various options.

A series of other projects also continued, notably the revision of the Electronic Fee Collections standards portfolio (EN ISO 14907-2:2021, CEN ISO/TS 17573-3:2021, CEN ISO/TS 21719-3:2021). Furthermore, in the ITS public transport alternative mode API, further progress was made on prEN 12896-10 ‘Public Transport -Reference Data Model -Part 10: Alternative Modes’. Work on this standard was launched in the second half of 2020 and focusses on the development of a data-exchange format dedicated to the publication of data concerning 'Alternative Modes', in particular car sharing, cycle sharing, carpooling, and car/cycle rental to improve mobility in Smart Cities.



BUSINESS SECTORS



ELECTROTECHNOLOGY

CENELEC, the European Standardization Organisation in the electrotechnical engineering field, develops voluntary standards in support of the European Single Market for electrical and electronic goods and services, hence removing barriers to trade, creating new markets and cutting compliance costs. CENELEC's objective is to agree on common specifications to respond to the needs of the industry, meet consumer expectations and contribute to the welfare of society.

A wide range of CENELEC Technical Committees, Task Forces and Working Groups deal with different topics and types of products. Their work is marked by a strong commitment to ensure the highest possible level of safety and performance and the most efficient use of resources.

Efficient use of resources is also reflected through the close cooperation between CENELEC and its international counterpart, the International Electrotechnical Commission (IEC). Over 80% of CENELEC standards are identical to, or based on, international standards adopted by the IEC. The high level of alignment between European and International standards means that companies active in the sector can benefit from access to markets around the world, with lower compliance costs and integrated supply chains.

ELECTROMAGNETIC COMPATIBILITY (EMC)

The important role and the influence technology has on our day-to-day operations in recent years and the necessity of the use of electronic devices in our everyday life seem to challenge the electromagnetic environment. The need for convergence in electronics across the board leads to the development of electromagnetic compatibility (EMC) standards.

CLC/TC 210 'Electromagnetic compatibility' deals with a wide range of product family, generic and basic EMC standards. Some of these are initiated and developed within the European Technical Committee CLC/TC 210 itself, but the majority result from its cooperation with IEC/TC 77 'Electromagnetic compatibility' and with the International Special Committee on Radio Interference (CISPR).

Whilst supporting CISPR and IEC/TC 77 activities, in 2021, CLC/TC 210 continued influencing towards the inclusion of European Regulatory Requirements at the International level via the Frankfurt Agreement.

Not only closely monitoring but also proactively participating at the international level, CLC/TC 210 experts and members worked towards the highest possible alignment between IEC, CISPR and CENELEC work.

In 2021, CLC/TC 210 predominantly focussed on working to foster the alignment between latest technologically enabled international standards and the versions cited in the OJEU. This action was taken in response to the European Commission's initiative to work closely together to clear confusion and uncertainty for industry, users and the public at large. CLC/TC 210 recognises their centrality in the development of standards, together with the need to set the way forward for EMC Standards Community horizontally when using adopted International Standards.

In addition, CLC/TC 210 continued working on the alignment with European legal requirements for the Electromagnetic Compatibility (2014/30/EU) and Radio Equipment (2014/53/EU) Directives and their corresponding Standardization Requests (respectively M/552 and M/536) for those important 30+ projects and work items currently in the pipeline and are expected to be published in 2022.

In a broader perspective, CLC/TC 210 offers its expertise to other CENELEC TCs and pursues its close cooperation with CEN, ETSI and he European Commission in order to ensure a coherent transversal approach regarding EMC matters.

In 2021, the following IEC standards were adopted at the European level under the Frankfurt Agreement:

- EN IEC 55014-1:2021 'Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 1: Emission';
- EN IEC 55014-2:2021 'Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 2: Immunity - Product family standard';
- EN IEC 61000-3-2:2019/A1:2021 'Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤16 A per phase)';
- EN 61000-3-3:2013/A2:2021 'Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤16 A per phase and not subject to conditional connection';
- EN 61000-4-30:2015/A1:2021 'Electromagnetic compatibility

■ (EMC) - Part 4-30: Testing and measurement techniques - Power quality measurement methods';

EN IEC 61000-6-3:2021 'Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for equipment in residential environments'.

ELECTRICAL INSTALLATIONS

EN 50110 'Operation of electrical installations' sets out requirements for the safe operation of and work activity on, with, or near electrical installations operating at voltage levels from (and including) extra-low voltage up to (and including) high voltage. The standard consists of two parts: Part 1 contains minimum requirements valid for all CENELEC countries and some additional informative annexes dealing with safe working on, with, or near electrical installations. In 2021, CLC/BTTF 62-3 published an updated version of EN 50110-2:2021 'Operation of electrical installations - Part 2: National annexes' which consists of a set of national annexes (one per country) which either specify the present safety requirements or give the national supplements to these minimum requirements.

In 2021, CLC/TC 64 'Electrical installations and protection against electric shock' worked on several standards for Low-voltage electrical installations, focussing on the safety of electrical installations. Among others, the TC started to work on a new standard for solar photovoltaic application: HD 60364-7-712 'Low voltage electrical installations - Part 7-712: Requirements for special installations or locations - Solar photovoltaic (PV) power supply systems'.

ACCUMULATORS, PRIMARY CELLS AND PRIMARY BATTERIES

In the frame of the EU Strategic Action Plan on Batteries, which defines a strategy to create a competitive and sustainable battery manufacturing industry in Europe, CEN and CENELEC accepted the Standardization Request as regards performance, safety and sustainability requirements for batteries (M/579). This standardization request aims to support the Strategic Action Plan and the revised regulatory framework for batteries. To coordinate the preparation of the work programme and execution of the Standardization Request, under the umbrella of the CEN and CENELEC eMobility Coordination Group, an ad-hoc group was established. In the upcoming months, standards development will be allocated to different CEN and CENELEC Technical Bodies.

In 2021, CLC/TC 21X 'Secondary cells and batteries' finalised and made available EN 50604-1:2016/A1:2021 'Secondary lithium batteries for light EV (electric vehicle) applications - Part 1: General safety requirements and test methods'.

In parallel with IEC/TC 21 'Secondary cells and batteries', CLC/TC 21X also developed, among others, several standards addressing different aspects such as safety and test methods for lithium-ion batteries, as well as lead-acid batteries, nickel cadmium and nickel-metal hydride cells.

As for primary cells and batteries, CLC/SR 35 'Primary cells and batteries', in parallel work with IEC, continued developing and maintaining European Standards, particularly those relating to specifications, dimensions, and performance, along with guidance on environmental and safety matters (EN IEC 60086 series). In 2021, CLC/SR 35 published 4 parts of the EN IEC 60086 series 'Primary batteries' as well as an update of EN IEC 62281:2019 'Safety of primary and secondary lithium cells and batteries during transport'.

INSULATED WIRE AND CABLE

Wireless is key for the digital revolution. Nevertheless, power and communication networks are still overwhelmingly cabled. Cables require a high level of safety, reliability, performance and precision in their use. Standards are therefore key in the cables sector.

In 2021, CLC/TC 46X 'Communication cables' continued the development of European standards in parallel with International IEC /TC 46 in the frame of the Frankfurt Agreement. Particularly note-worthy is the development of the EN IEC 60966 series 'Radio frequency and coaxial cable assemblies'. CLC/TC 46X also published multiple parts of the EN IEC 62037 series 'Passive RF and microwave devices, intermodulation level measurement' as well as parts of the EN IEC 62153 'Metallic cables and other passive components test methods'. Additionally, CLC/TC 46X started the revision of EN 50289-1-2:2001 'Communication cables - Specifications for test methods - Part 1-2: Electrical test methods - DC resistance'.

Furthermore, CLC/TC 86A 'Optical fibres and optical fibre cables' completed in 2021 many parts of the EN 60794 series, notably for product specifications, measurement methods and test procedures for cables. Additionally, in 2021, CLC/TC 86A published Technical Report CLC/TR 50510:2021 'Fibre optic access to end-user - A guideline to building of FTTX fibre optic network'.

ELECTROMAGNETIC FIELDS IN THE HUMAN ENVIRONMENT

5G technologies present new opportunities for the entire industry, which go beyond telecommunication equipment. The technology has the potential to change drastically the future of logistics, transport, agricultural business, facility management and telecommunications. International and European standardization organisations are developing procedures for the reproducible and conservative measurement or calculation of the power density occurring near the human body by radio frequency transmitting devices, including RF equipment-embedded garments, millimetre wave and active beamforming antennas. European Standards can be used to evaluate the compliance of radio devices for use in close proximity to the human body.

In 2021, CLC/TC 106X 'Electromagnetic fields in the human environment' developed a basic standard for the in-situ assessment of exposure to radio frequency electromagnetic fields in the vicinity of a broadcast site

(EN 50554:2021), as well as a specific procedure for the assessment of the exposure to electromagnetic fields of workers bearing implantable neurostimulators (EN 50527-2-3:2021).

CLC/TC 106X also produced CLC/TR 50713:2021 'Reasonably Foreseeable Use Conditions when referring to EMF Exposure Assessment' which illustrates good practice and provides guidance with regard to the term "reasonably foreseeable use", as it relates to product compliance assessment standards concerning the exposure of humans to electric, magnetic and electromagnetic fields (EMF). The report covers both occupational and general public use of equipment and also provides a rationale for the distinction between occupational use and use by the general public.

Under the Frankfurt Agreement, the following IEC standard was adopted at the European level: EN IEC/IEEE 62209-1528:2021 'Measurement procedure for the assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Part 1528: Human models, instrumentation, and procedures (Frequency range of 4 MHz to 10 GHz)'.

ELECTRIC MOTORS AND TRANSFORMERS

In 2021, CLC/TC 14 'Power transformers' started to work on the new editions of EN 50708-1-1 (part 1-1: Common part - general requirements) and EN 50708-3-1 (part 3-1: power transformer-General requirement). Furthermore, three standards in the EN IEC 60076-22 series on 'Power transformers and reactor fittings' and one standard in the EN IEC 60076-24 series on 'Specification of voltage regulating distribution transformers' were made available by CENELEC.

LIGHTING EQUIPMENT AND ELECTRIC LAMPS

In 2021, CLC/TC 34 'Lighting' started to work on the revision of EN 50172 'Emergency escape lighting systems'. This work is done in parallel and in coordination with CEN/TC 169, which is working on the new edition of EN 1838 'Lighting applications - Emergency lighting'. CLC/TC 34 also started to work on a new standard on Photobiological safety of lamps and lamp systems (EN IEC 62471-7). Finally, EN IEC 60598-1:2021 'Luminaires – Part 1: General requirements and tests' and EN IEC 60598-2-1:2021 'Luminaires – part 2-1: Particular requirements – Fixed general purpose luminaires' were made available by CENELEC in 2021.

CABLE MANAGEMENT SYSTEMS

CLC/TC213 'Cable management systems' is responsible for standardization publications for products and systems used for the management of all types of cables, information and communication lines, electrical power distribution conductors and associated accessories. Cable management includes support and/or containment and/or retention and/or protection against external influences. Cable management products and systems generally fall into two broad categories: those made from metals such as steel and aluminium and those made from plastics such as PVC, PE and PP.

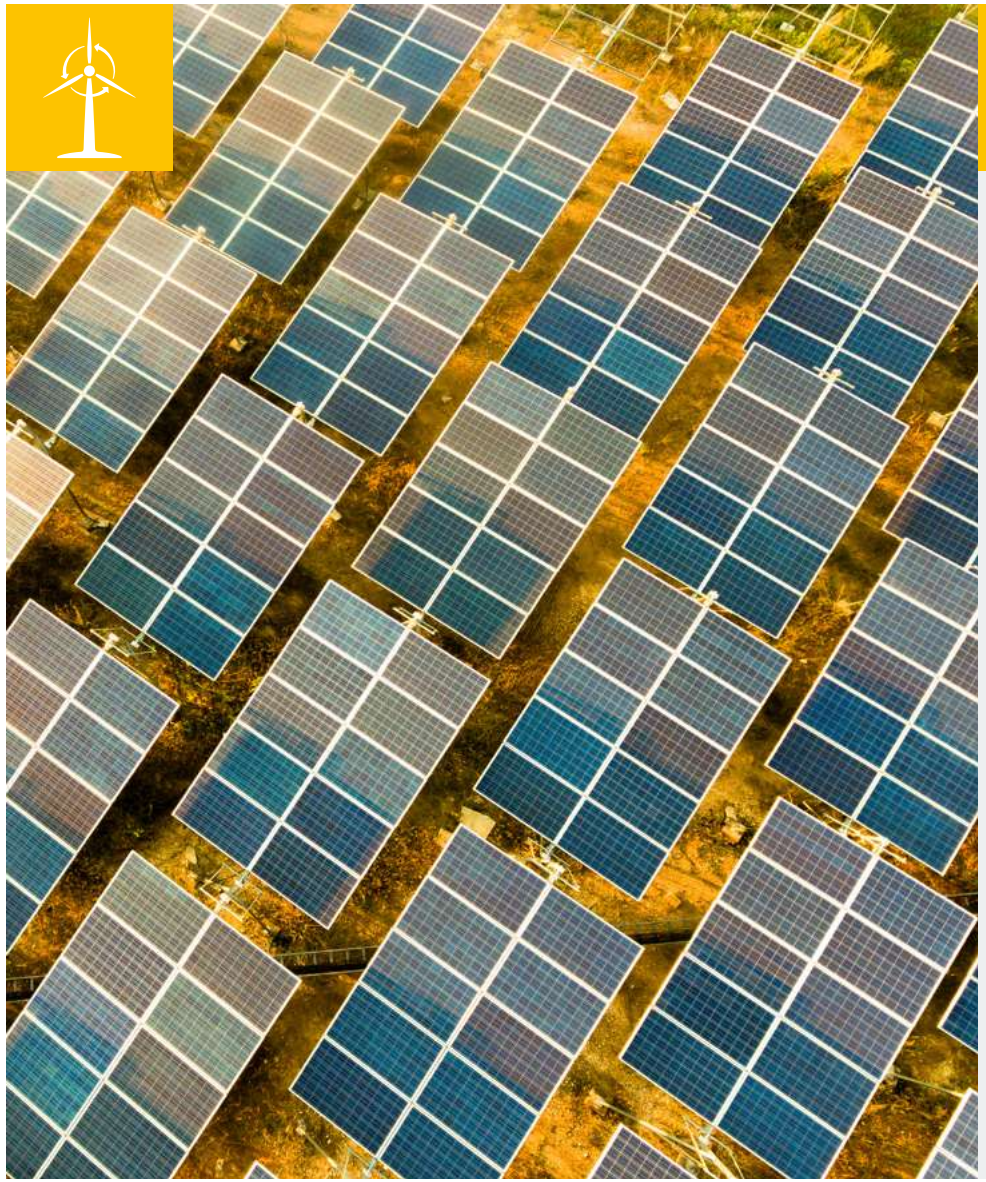
In 2021, CLC/TC 213 developed an Amendment to EN 50520:2020/A1:2021 'Cover plates and cover tapes for the protection and location warning of buried cables or buried conduits in underground installations' to present the standard for citation in the Official Journal.

In addition, the following IEC standards were endorsed at European level under the Frankfurt Agreement with, when relevant, some modifications to adapt the standards to European requirements:

- EN 61534-1:2011/A2:2021'Powertrack systems - Part 1: General requirements'
- EN IEC 61386-21:2021, including A11:2021 'Conduit systems for cable management - Part 21: Particular requirements - Rigid conduit systems'
- EN IEC 61386-22:2021, including A11:2021 'Conduit Systems for cable management - Part 22: Particular requirements - Pliable conduit systems'
- EN IEC 61386-23:2021, including A11:2021 'Conduit systems for cable management - Part 23: Particular requirements - Flexible conduit systems
- EN 61534-1:2011/A11:2021 'Powertrack systems - Part 1: General requirements'
- EN 61534-21:2014/A1:2021 'Powertrack systems - Part 21: Particular requirements for powertrack systems intended for wall and ceiling mounting'
- EN 61534-22:2014/A1:2021 'Powertrack systems - Part 22: Particular requirements for powertrack systems intended for onfloor or underfloor installation'
- EN IEC 61914:2021 'Cable cleats for electrical installations'.

CLC/TC 121A 'Low-voltage switchgear and controlgear' finalised in 2021 the new edition of EN IEC 60947-1 'Low-voltage switchgear and controlgear - Part 1: General rules' and the new edition of EN IEC 60947-3:2021 'Low-voltage switchgear and controlgear - Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units'. CLC/TC 121A worked in parallel with its IEC counterpart, and focused on the harmonization of its ENs with regards to the LVD, EMCD and RED.

CLC/TC 23BX 'Switches, boxes and enclosures for household and similar purposes, plugs and socket outlet for D.C.', on its side, finalised in 2021 the new edition of EN IEC 60670-1:2021 'Boxes and enclosures for electrical accessories for household and similar fixed electrical installations - Part 1: General requirements', that was developed in support of the LVD.



ENERGY AND UTILITIES

The further modernisation of the European economy and the development of more secure, affordable and sustainable energy systems for all EU citizens call for the renewal of infrastructures and the emergence of new technologies. The European Commission has set a series of ambitious goals, through the Green Deal published in December 2019, to transition towards a fully green economy and reach the global climate target of net zero by 2050.

Standardization in the energy sector contributes to improving energy management by supporting the spread of best practices and providing energy users with the necessary tools to analyse and adapt their energy consumption patterns. European Standards (ENs) are a flexible tool to improve safety and performances, raise levels of energy efficiency and protect consumers, workers and the environment. CEN and CENELEC are working with the European Commission and other stakeholders to develop and adopt European Standards to support European legislation, with a particular focus on the successful integration of the European energy market and the implementation of the EU's climate and energy targets. European Standards provide a basis for the integration of technologies into complex systems and facilitate interoperability and data exchange.

ENERGY MANAGEMENT AND ENERGY EFFICIENCY

The CEN and CENELEC Sector Forum on Energy Management (SFEM) acts as an advisory and coordination body for policy and strategic matters in relation to the standardization of energy management and efficiency. SFEM has recently realigned its activities and priorities according to the most recent policy and market needs.

In 2021, the Sector Forum focussed on the newly identified priorities in line with the European Green Deal, notably energy efficiency, energy management, energy transition, taxonomy adoption and the digitalisation of the sector (*for more information, see the part dedicated to the Green Transition in the Highlights*). The security of the energy supply, increasing the share of renewable energy, and the Renovation Wave are planned to be high on the SFEM's agenda. The objective was to support through standards a forward-looking, modern, secure and smart energy infrastructure that facilitates the decarbonisation and transformation of our society, where no one is left behind.

SFEM pursued its activities through its several Working Groups:

- The new WG 'Blockchain' was set up in order to explore the framework for the Internet of energy in which energy, efficiency, peer-to-peer transactions and services are delivered in real time. These activities will specifically address the needs identified in the Ecosystem 'Digital'. The WG elaborated a mapping of the challenges and standardization needs in 2021.
- The WG 'Financing tools' continued working on linking energy efficiency standards and sustainable financing, as well as linking standardization with taxonomy on circular economy. The standard developed by CEN/CENELEC/JTC 14 'Energy management and energy efficiency in the framework of energy transition' and published in 2021, EN 17463 'Valuation of Energy Related Investments (VALERI)', had been initiated by this group.
- The newly created WG on 'Multiple benefits' has as objective to define a common framework to integrate end to end the energy transition (multiple) benefits and risk assessment aligned with the EU Taxonomy and EU ambition to become carbon neutral by 2050.
- The Working Group 'Hydrogen' in 2021 contributed to the development of the Standardization request on Hydrogen and AFIR, and continued the mapping of the challenges and standardization needs in the specific sectors (see also, below, the section on *Hydrogen*).

CEN/TC 371 'Energy performance of buildings' further worked on the revision of two Technical Specifications that provide detailed technical rules and basic principles for the set of energy performance of buildings standards.

ELECTRICITY DISTRIBUTION AND EQUIPMENT

In 2021, CLC/TC 8X 'System aspects of electrical energy supply,' which is developing standards to facilitate the functioning of electricity supply systems in open markets, carried on the revision of EN 50160 'Voltage characteristics of electricity supplied by public electricity networks'. This standard defines, describes and specifies the amin characteristics of the voltage at a network user's supply terminal in public low voltage, medium voltage and high voltage electricity distribution networks under normal operating conditions.

WASTE MANAGEMENT

The deliverables of CEN/TC 183 'Waste management' specify technical requirements to minimise all significant hazards and hazardous situations which may occur during operation and maintenance of refuse collection vehicles (RCV) and help prevent accidents. In 2021, the TC finalised the revision of the four parts of the EN 1501 series, which provides technical requirements to minimise significant hazards and hazardous situations which may occur during operation and maintenance of Refuse Collection Vehicles (RCV), thus helping to prevent accidents. The revision of the EN 1501 series under the Machinery Directive (2006/42/EC) became necessary due to the increased safety precautions, in particular in connection with the use of the footboards. The published standards were offered for citation in the EU Official Journal.

ENVIRONMENTAL CHARACTERISATION OF SOLID MATRICES

CEN/TC 444 'Environmental characterisation of solid matrices' was established to develop horizontal multi-matrix standards. It covers the standardization of test methods for the environmental characterisation of soil, solid and liquid waste, biowaste and sludge.

In 2021, the TC also finalised the revision of several European Standards: 'Determination of total dissolved solids (TDS) in water and eluates' (EN 15216) for environmental matrices; 'Determination of loss on ignition' (EN 15935) for the sludge, treated biowaste, soil and waste; and 'Determination of adsorbed organically bound halogens (AOX)' (EN 16166) for sludge, treated biowaste, and soil; Preparation of waste samples for ecotoxicity tests (EN 14735) for waste characterization.

In addition to the revision of homegrown European standards CEN/TC 444 also completed the development and revision and of a series of EN ISO standards in 2021.

ALTERNATIVE FUELS

Phase two of the preparation of the standardization work supporting the removal oftechnical barriers to the use of bio-methane in gas networks and gas appliances and to the use of hydrogen in natural gas networks and for natural gas end users (action funded by the European Commission) continued in 2021 (see also the the sections on *Gas quality and Hydrogen*).

A study initiated at the end of 2020 paved the way for the development of a standardization deliverable on the quality of pyrolysis oil suitable for mineral oil refinery co-processing to produce alternative fuels under Standardization Request M/525 (Pyrolysis oils). The Commission-funded project started in 2021 with the aim to produce the basis of a mass balance standard for co-refining of the fast pyrolysis bio-oil (FPBO).

GAS DISTRIBUTION AND RELATED SERVICES

In 2021, the work on the revision of a large number of standards dealing with the requirements for gas infrastructures to support safety and energy efficiency, the optimisation of installations and systems and the uptake of renewable gases and new technologies should be highlighted, which aimed at contributing to reach the EU's climate and energy targets of the European Green Deal.

CEN/TC 234 'Gas Infrastructure', taking into consideration the Commission's objective to reduce methane emissions in the EU, established a new Working Group to develop a Technical Report on the assessment of methane emissions in the gas transmission and distribution network. This report intends to provide aligned technical guidance on how to assess and quantify methane emissions, as well as

ensure transparency and comparability of data, to build a reliable basis for the data analysis, identification and monitoring of systematic mitigation activities to the gas sector, authorities and other interested parties.

Moreover, CEN/TC 234 progressed on the development of a series of standards providing specific requirements on hydrogen and biogas, as well as on the plants for the preparation of combustible gas mixtures and for the injection of renewable gasses into natural gas networks.

CEN/TC 282 'Installation and equipment for LNG' develops and updates standards in the field of installations, equipment and procedures used for production, transportation, transfer, storage, regasification and use of LNG. In 2021, the Technical Committee finalised EN 1473, which gives guidelines for the design, construction and operation of all onshore-liquefied natural gas (LNG) installations for the liquefaction, storage, vaporisation, transfer and handling of LNG and natural gas (NG).

GAS QUALITY

With the increasing use of renewable gases such as hydrogen or biomethane in the European natural gas systems, gas qualities need to be predictable for the end-applications. In this context, the CEN Sector Forum Gas results of the pre-normative studies on the Wobbe Index and oxygen that were conducted in 2021 will be fed into the revision of EN 16726 on gas quality for H-gas. In addition, CEN/TC 234 'Gas infrastructure', in cooperation with CEN-CLC/JTC 6 'Hydrogen in energy systems', started working on a document regarding the quality of hydrogen for the injection into natural gas and for its use in converted natural gas systems.

HYDROGEN

Hydrogen can support the decarbonisation of industry, transport, power generation and buildings across Europe and facilitate the large-scale integration of renewables, enabling grid balancing and the decarbonisation of natural gas through innovative technologies. In this context, the CEN and CENELEC Sector Forum Energy Management's Working Group 'Hydrogen', the CEN Sector Forum Gas Infrastructure and the Sector Forum Gas Utilisation combined their expertise in a Joint Task Force on 'Hydrogen in natural gas systems' with the intention to support the timely provision of coherent deliverables in the different CEN and CENELEC Technical Committees, thus allowing a safe and reliable use of hydrogen in a decarbonising energy system.

In addition, several CEN and CENELEC Technical Committees continue their work preparing for the integration of hydrogen in their system and product standards.

In 2021, CEN/TC 234 'Gas infrastructure' published a Technical Report summarising the consequences of hydrogen in the natural gas infrastructure.

In parallel, the Joint Technical Committee CEN-CLC/JTC 6 'Hydrogen in energy systems' is dealing with devices and connections for the production, storage, transport and distribution, measurement and use of hydrogen from renewable energy sources and other sources. In 2021, the JTC continued its activities related to terms and definitions, guarantee of origin and hydrogen safety in confined environments.

ELECTRIC GENERATION (INCLUDING TURBINES)

Renewable energies such as wind or solar energy will play a key role in delivering on the ambition of the European Green Deal, which aims for Europe to become the world's first climate-neutral continent by 2050.

In the field of wind energy, CLC/TC 88 'Wind turbines' continued its work on the development of several parts of the EN IEC 60400 series 'Wind energy generation systems' in the frame of the Frankfurt Agreement.

CLC/TC 82 'Solar photovoltaic energy systems', which develops standards related to all topics of solar photovoltaic energy systems, published the revision of EN 50524 'Data sheet and name plate for photovoltaic inverters', which describes data sheet and name plate information for photovoltaic inverters in grid parallel operation, with the intention to provide minimum information required to configure a safe and optimal system with photovoltaic inverters.

Standardization in this field is obviously necessary to ensure a high level of product quality, product safety and the consideration of environmental aspects.

NUCLEAR ENERGY AND RELATED EQUIPMENT

The core principle and responsibility of the nuclear industry is guaranteeing its safety. For this reason, CEN and CENELEC, in close collaboration with the international standardization organisations, ISO and IEC, are working on the development and publication of standards that ensure the safety, environmental and technical requirements of the European nuclear energy industry.

In 2021, CLC/TC 45AX 'Instrumentation, control and electrical power systems of nuclear facilities' analysed the potential adoption of several IEC standards as European standards.

CLC/TC 45B 'Radiation protection instrumentation' adopted as European Standard IEC 61563:2019, which applies to instruments used to measure the activity and/or activity concentration of gamma-emitting radionuclides in food and/or foodstuffs.

CEN/TC 430 'Nuclear energy, nuclear technologies, and radiological protection' adopted several ISO standards developed by its international counterpart ISO/TC 85.

ECODESIGN

In the European Union, energy-related products are regulated by the Ecodesign Framework Directive (2009/125/EC), which aims to ban the placing on the market of products with the highest environmental impact, and the Energy Labelling Framework Regulation (EU) 2017/1369, that enables consumers to make a better and more rational use of energy by informing them about the energy efficiency of products.

European Standards are essential complementing tools, as they provide methods to measure and assess whether products comply with regulatory requirements.

In 2021, CEN and CENELEC developed several harmonized standards in support of the Ecodesign and Energy Labelling Regulations.

The CEN-CENELEC Ecodesign Coordination Group (Eco-CG) coordinates and advises on standardization activities in the fields of Ecodesign and Energy Labelling. The Eco-CG serves as a focal point concerning standardization issues related to the Ecodesign and Energy Labelling Standardization Requests in support to Directive 2009/125/EC and Regulation (EU) 2017/1369.

Moreover, CEN and CENELEC Joint Technical Committee 10 'Material efficiency aspects for products in scope of Ecodesign legislation', following the finalisation of its work in response to Standardization Request M/543 on material efficiency aspects of energy-related products, began working on a new standard, prEN 50729, that aims at proposing a method to achieve circular-ready design of products falling under the scope of the Ecodesign directive.

WATER DISTRIBUTION AND RELATED SERVICES

CEN/TC 164 'Water supply' is in charge of elaborating standards for the installation and performance requirements of systems and for the construction of components used for the water supply. In 2021, committee experts finalised the revision of a series of standards, such as tests and requirements for expansion groups of building valves (EN 1488), test methods for the influence due to migration of materials on water intended for human consumption (EN 12873 Part 2 and Part 4), general specifications for aerators of sanitary tapware (EN 246), and calcium carbonate used for treatment of water intended for human consumption (EN 1018).

The TC also published two European Standards related to the devices to prevent pollution by backflow of potable water (EN 13433 and EN 13434).

In the framework of the Standardization Request M/572 as regards measurement of functional performance of taps and showers, CEN/TC 164 started development of a standard on the 'Measurement of functional performance of taps and showers', in accordance with the Work Programme submitted to the Commission.

BUSINESS SECTORS

FOOD AND AGRICULTURE

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 the food industry as a whole: by the competent public authorities for official control purposes, and by food and feed producing companies for internal checks.

Many of the standards adopted by CEN are developed in response to formal requests from the European Commission and play a valuable role in supporting the implementation of relevant European legislation.

The majority of European Standards in this field (around 70%) are identical to international standards, as a result of the close and continuous cooperation between CEN and ISO. Having test methods that are recognised internationally is especially important for food companies that want to sell their products in many different markets.

AGRICULTURAL, FARMING, FISHING, FORESTRY AND RELATED PRODUCTS

In 2021, CEN/TC 172 'Pulp, paper and board' published:

- EN ISO 12625-17:2021 'Tissue paper and tissue products - Part 17: Determination of disintegration in water (ISO 12625-17:2021)', which aims to determine the time necessary to disintegrate a test piece of toilet paper, in specified conditions;
- EN ISO 638-1:2021 'Paper, board, pulps and cellulosic nanomaterials - Determination of dry matter content by oven-drying method - Part 1: Materials in solid form (ISO 638-1:2021)', which specifies an oven-drying method for the determination of the dry matter content in paper, board, pulp and cellulosic nanomaterials in solid form, which can all be produced from virgin and /or recycled materials;
- EN ISO 12625-7:2021 'Tissue paper and tissue products - Part 7: Determination of optical properties - Measurement of brightness and colour with D65/10° (outdoor daylight) (ISO 12625-7:2021)', which specifies testing procedures for the instrumental determination of brightness and colour of tissue paper and tissue products viewed under outdoor daylight conditions;
- EN ISO 7213:2021 'Pulps - Sampling for testing (ISO 7213:2021)', which specifies a method of obtaining, for test purposes, a gross sample representative of a certain lot of pulp;
- EN 17545:2021 'Paper and board - Determination of composition of paper and board for recycling by gravimetric analysis', which describes a procedure to gravimetrically determine the physical composition of paper and board for recycling by manually separating/ sorting the individual components;
- CEN/TS 17630:2021 'Pulp, paper and paperboard - Determination of anthraquinone in extracts from pulp, paper and paperboard', which specifies an analytical test method for the determination of anthraquinone in water and 95 % ethanol extracts of pulp, paper and board materials and articles intended to come into contact with foodstuffs.

CEN/TC 327 'Animal feeding stuffs – Test methods' continued working on a range of test methods for animal feed, in response to the standardization requests M/522 and M/523 on animal nutrition and animal feeding stuff. It published the following deliverables in 2021:

- EN 17547:2021 'Animal feeding stuffs: Methods of sampling and analysis - Determination of vitamin A, E and D content - Method using solid phase extraction (SPE) clean-up and high-performance liquid chromatography (HPLC)';
- EN 17517:2021 'Animal feeding stuffs: Methods of sampling and analysis - Determination of mineral oil saturated hydrocarbons (MOSH) and mineral oil aromatic hydrocarbons (MOAH) with on-line HPLC-GC-FID analysis';
- The EN 15780s series, on the detection and enumeration of Bacillus spp., Pediococcus spp., Lactobacillus spp., Saccharomyces cerevisiae, and Enterococcus (E. faecium) spp., used as feed additive;
- EN 17550:2021 'Animal feeding stuffs: Methods of sampling and analysis - Determination of carotenoids in animal compound feed and premixtures by high performance liquid chromatography - UV detection (HPLC-UV)';

- EN 17462:2021 'Animal feeding stuffs: Methods of sampling and analysis - Determination of the radionuclides Iodine-131, Caesium-134 and Caesium-137 in feed'.

These new standards enable regulatory authorities to determine if animal feeds on the market comply with the legal requirements laid down in Regulation (EC) 882/2004, relating to 'official controls performed to ensure the verification of compliance with feed and food law, animal health and animal welfare rules'.

FISHING GEAR AND AQUACULTURAL EQUIPMENT

Fishing gear ending up in the sea at its end-of-life stage poses a severe risk to marine ecosystems, to biodiversity and to human health and has negative impact on tourism, fisheries, aquaculture and shipping.

In 2021, CEN accepted Standardization Request M/574 on Circular design of fishing gear in support of Directive (EU) 2019/904 on the reduction of the impact of certain plastic products on the environment in order to encourage preparing for re-use and facilitate recyclability at end of life. Work on the topic has been allocated to the recently established CEN/TC 466.

The new CEN/TC 466 'Circularity and recyclability of fishing gear and aquaculture equipment' in 2021 established working groups, gathered relevant expertise, and defined the work programme to develop standards in this field. Its work will address the requirements of Standardization Request M/574. The standard(s) for the circular design of fishing gear should provide the level playing field for the industry to develop a higher quality and environmentally friendly fishing gear that is easily reused or recycled at the end of life and will provide the industry the opportunity to act sustainably for a healthier planet.

FOOD, BEVERAGES AND RELATED PRODUCTS

CEN's main focus in the field of food, beverages and related products is the standardization of validated analytical methods for a variety of species and substances, ranging from horizontal methods applicable to various matrices to specific food-group standards.

In 2021, CEN/TC 275 'Food analysis – Horizontal methods' published two standards providing methods for the analysis of mycotoxins in food that have a potential deleterious effect on human health. This work is in support of the European Commission standardization request M/520 Methods of analysis for mycotoxins in food:

- EN 17521:2021 'Foodstuffs - Determination of Alternaria toxins in tomato, wheat and sunflower seeds by SPE clean-up and HPLC-MS/MS';
- EN 17425:2021 'Foodstuffs - Determination of ergot alkaloids in cereals and cereal products by dSPE clean-up and HPLC-MS/MS';

In addition, CEN/TC 275 published:

- EN 17203:2021 'Foodstuffs - Determination of citrinin in food by HPLC-MS/MS';
- CEN/TS 17329-1:2021 'Foodstuffs - General guidelines for the validation of qualitative real-time PCR methods - Part 1: Single-laboratory validation'.

Both documents support Regulation (EU) 2017/625 and Regulation (EC) No 882/2004.

CEN/TC 307 'Oilseeds, vegetable and animal fats and oils and their by-products - Methods of sampling and analysis'continued to monitor the work of its ISO counterpart, ISO/TC 34/SC 11, to identify suitable standards to be adopted at the European level. In addition, CEN/TC 307 published EN 14104:2021 'Fat and oil derivates - Fatty acid methyl ester (FAME) - Determination of acid value', which specifies a titrimetric method for the determination of acid value in light coloured Fatty Acid Methyl Esters (FAME).

BUSINESS SECTORS

HEALTHCARE AND HEALTH & SAFETY

CEN and CENELEC develop European Standards setting quality, performance and safety requirements for a wide variety of medical devices and associated products, ranging from contact lenses through antiseptics to road ambulances and including health informatics. Standardization plays a fundamental role in this sector, as it ensures a high level of safety for patients and users of medical devices, and it guarantees that a device used in one country can also be used in any other country with the same results.

The CEN and CENELEC Advisory Board for Healthcare Standards (ABHS) advises CEN and CENELEC on possible new standardization areas in the medical field. The ABHS continues to guide the relevant Technical Committees (TCs) in the transition to the new landscape under the Medical Devices Regulation (MDR) (2017/745/EU) and the In Vitro Medical Devices Regulation (IVDR) (2017/746/EU).

In addition, the standardization of individual protective products, such as protective clothing helmets, ropes used to prevent falls from a height or footwear resistant to chemicals, is handled by Technical Committees of the CEN and CENELEC Sector Forum on Personal Protective Equipment (SF PPE). One of the Sector Forum's priorities is to pursue the alignment of the existing standards with the PPE Regulation 2016/425/EU. This would ensure a smooth citation of those standards in the Official Journal of the European Union (OJEU), allowing manufacturers, notified bodies and other stakeholders using these standards to benefit from a presumption of conformity against the essential requirement the PPE Regulation (2016/425/EU).

Furthermore, the Covid-19 pandemic highlighted the importance of standards on key materials such as protective masks and emphasised the need for additional type of masks. As there were different activities within CEN technical committees on standardization for protective masks under different EU regulatory frameworks within different European Commission DGs (DG SANTE, DG GROW, DG JUST), the CEN and CENELEC PPE SF decided that it was necessary to have a coordination meeting in 2021 with all the involved parties to have a clear overview of all standardization activities on the issue in order to avoid duplication of work and to ensure a coherent set of standards.

HEALTH INFORMATICS

Following a request from the European Commission, CEN/TC 251 'Health informatics' developed a guidance targeting eHealth and wellness app developers which led to a specific agreement on 'Health and Wellness Apps - Quality and reliability criteria across the life cycle - Code of Practice' between CEN, the European Commission and EFTA. Under this specific agreement, in 2021 CEN/TC 251 published CEN ISO/TS 82304-2:2021 'Health software - Part 2: Health and wellness apps - Quality and reliability (ISO/TS 82304-2:2021)'.

The Technical Specification was developed to provide the possibility for users to opt for verified health and wellness apps in line with the quality criteria detailed in the Technical Specification. It also provides quality requirements for health apps and defines a quality label to visualize the quality and reliability of health apps.

It is intended for use by app manufacturers as well as app assessment organisations. Consumers, patients, carers, health care professionals and their organisations, health authorities, health insurers and the wider public can use this quality label and report when recommending or selecting a health app for use, or for adoption in care guidelines, care pathways and care contracts.

HEALTH AND SOCIAL WORK SERVICES

CEN/TC 122 'Ergonomics' published in 2021 CEN/TR 17698:2021 'Ergonomics - Demands and availability of anthropometric and strength data of children in Europe' in the framework of an EC-EFTA funded project.

The document is intended to give guidance to stakeholders such as standard writers, designers and manufacturers of products for children on how to identify currently available sources of anthropometric data that are relevant to their needs in terms of age/gender groupings, types of anthropometric data. This document also identifies the lack of data for specific applications, hence implicitly indicating caution.

A webinar was organised on 30 November 2021 to explain the importance of anthropometric and strength in developing standards both for children's products and for consumer products children come in contact or interact with, as well as in designing such products. The recording material can be found via this link.

MEDICAL EQUIPMENT, PHARMACEUTICALS AND PERSONAL CARE PRODUCTS

CEN-CENELEC/JTC3 'Quality management and corresponding general aspects for medical devices' published EN ISO 14971:2019/A11:2021 'Medical devices - Application of risk management to medical devices (ISO 14971:2019)' in 2021. The standard specifies terminology, principles and a process for the risk management of medical devices, including software as a medical device and in vitro diagnostic medical devices.

The process described in the document intends to assist manufacturers of medical devices to identify the hazards associated with them, to estimate and evaluate the associated risks, to control these risks, and to monitor the effectiveness of the controls and the requirements in the standards applicable to all phases of the life cycle of a medical device.

The intention is to have this standard cited in the Official Journal of the European Union (OJEU), so as to give presumption of conformity to the General Health and Safety Requirement of the MDR and IVDR Regulations.

In 2021, CEN-CENELEC/JTC3 also published EN ISO 15223-1:2021 'Medical devices - Symbols to be used with information to be supplied by the manufacturer - Part 1: General requirements (ISO 15223-1:2021)'. The standard specifies symbols used to express information about a medical device and is applicable to symbols used in a broad spectrum of medical devices that are available globally and need to meet different regulatory requirements. These symbols can be used on the medical device itself, on its packaging or in the accompanying information.

The standard is cited in the OJEU and therefore is presumed to be in conformity with the requirements of the Medical Device Regulation (EU) 2017/745 and Invitro Diagnostic Devices Regulation (EU) 2017/746.

In 2021, CEN/TC 392 'Cosmetics' continued to monitor its ISO counterpart, ISO/TC 217, to identify relevant standards for adoption at the European level. As a result of this process, it published:

EN ISO 21392:2021 'Cosmetics - Analytical methods - Measurement of traces of heavy metals in cosmetic finished products using ICP/MS technique (ISO 21392:2021, Corrected version 2021-12)', which provides a method for the quantification of trace levels of heavy metals in cosmetic products. This standard was developed in connection with 1223/2009 (COSMET), an EC communication in the framework of the implementation of Regulation (EC) No 1223/2009 on cosmetics products.

EN ISO 24443:2021 'Cosmetics - Determination of sunscreen UVA photoprotection in vitro (ISO 24443:2021)', which specifies an in vitro procedure to characterise the UVA protection of sunscreen products. This standard was developed in support of M/389 Sunscreen products.

In addition, CEN/TC 392 also published:

- EN ISO 21322:2021 'Cosmetics - Microbiology - Testing of impregnated or coated wipes and masks (ISO 21322:2020)', which provides guidance for the enumeration and/or detection of microorganisms present in cosmetic products;
- EN ISO 18861:2021 'Cosmetics - Sun protection test methods - Percentage of water resistance (ISO 18861:2020)', which specifies a method for evaluating the percentage of water resistance of SPF;
- EN ISO 16217:2021 'Cosmetics - Sun protection test methods - Water immersion procedure for determining water resistance (ISO 16217:2020)', which specifies a water immersion method for the in vivo determination of the water resistance of sunscreen products.

OCCUPATIONAL CLOTHING, SPECIAL WORKWEAR AND ACCESSORIES

In 2021, CEN/TC 162 'Protective clothing including hand and arm protection and lifejackets' published CEN/TR 17620:2021 'Guidelines for selection, use, care and maintenance of smart garments protecting against heat and flame'.

The purpose of this document is to assist employers (or the person who advises the employer such as suppliers of PPE or services, inspection, insurance companies, etc.) in taking the necessary decisions regarding the selection, use, care and maintenance (SUCAM) of advanced garments and ensembles of garments that provide protection against heat and flame, with integrated smart textiles and smart non-textile elements for enhanced health, safety and survival capabilities that are compliant with the European legislation.

Still in 2021, CEN/ TC 162 (or more specifically its Working Group 8 dealing with 'Protective gloves') also started working on EN ISO 374-6s 'Protective gloves against dangerous chemicals and micro-organisms - Part 6: Protective gloves for hairdressers'. The document intends to specify the requirements for protective gloves to protect hairdressers, especially from risks deriving from micro-organisms and dangerous chemicals, and defines the terms to be used.

CEN/TC 159 ‘Hearing protectors’ finalised EN 17479:2021 'Hearing protectors - Guidance on selection of individual fit testing methods'. The standard gives guidelines for the appropriate selection of fit testing methods and measurement, and provides practical guidelines on fit testing methods, their uses and limitations.

CEN/TC 161 'Foot and leg protectors' finalised EN ISO 20344:2021 'Personal protective equipment - Test methods for footwear (ISO 20344:2021)'. The document specifies methods for testing footwear designed as personal protective equipment.

HOUSEHOLD APPLIANCES AND HVAC

Household appliances and HVAC are one of the most obvious areas where the application of standards is perceptible in everyday life. Standardization work in this field is very broad and covers a wide range of activities. From kitchen toasters to washing machines and central heating boilers, more than 20 CEN and CENELEC Technical Committees are developing European Standards ensuring a high level of performance and safety of these products to their user, bearing in mind the diversity of the users' profile (professionals, youngsters, elderly people, disabled people, etc.).

SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES

European standardization activities for the electrical safety of household and similar electrical appliances are developed by CLC/TC 61 'Safety of household and similar electrical appliances'. The industry actively supports the activities of CENELEC in this area through the participation of APPLiA (Home Appliance Europe), active in CLC/TC 61 and its various Working Groups.

In the frame of the Frankfurt Agreement between IEC and CENELEC, CLC/TC 61 monitors the work of its international counterpart IEC/TC 61 in view of keeping as much as possible the European Standards aligned to international ones. The standards on the safety of household and similar electrical appliances (included in the EN 60335 multi-part series) are continuously adapted to the latest technological changes.

In 2021, CLC/TC 61 continued to adjust its standards to the requirements of the Low Voltage Directive (2014/35/EU) and published more than 30 new standards covering products such as battery chargers, pumps, microwave ovens, multifunctional shower cabinets, and storage water heaters.

HOUSEHOLD AND OTHER APPLIANCES

CLC/TC 59X 'Performance of household and similar electrical appliances' develops European Standards relating to methods to measure characteristics, which are important to determine the performance of electrical appliances for household use or of electrical appliances for commercial use and that are of interest for the user.

In 2021, CLC/TC 59X worked on a Technical Report that summarises the observations on the EN 4555X series on material efficiency in view of applying these standards to household and similar electrical appliances. Furthermore, the Technical Committee monitored the development by its international counterpart, IEC/TC 59 'Performance of household and similar electrical appliances', of standards that are relevant for European legislation on Ecodesign and Energy Labelling.

Last but not least, CLC/TC 59X also worked on a series of standards regarding household appliances network and grid connectivity, defining for example data models for interoperable and connected household appliances.

CEN/TC 44 'Commercial and Professional Refrigerating Appliances and Systems, Performance and Energy Consumption' in 2021 published EN ISO 22042. This standard specifies the requirements for the verification of performance and energy consumption of blast cabinets for professional use in commercial kitchens, hospitals, canteens, institutional catering and similar professional areas.

In 2021, CEN/TC 106 'Large kitchen appliances using gaseous fuels' finalised the EN 203 series dealing with gas-heated catering equipment. These ENs specify the general requirements and the operating characteristics related to aspects such as safety, rational use of energy, marking and the associated test methods for gas-heated commercial catering and bakery appliances intended to be used indoor. These projects support the Gas Appliances Regulation (EU) 2016/426/EU.

In 2021, CEN/TC 109 'Central heating boilers using gaseous fuels' continued working on the EN 13203 series, setting out a method for the assessment of energy consumption of gas-fired domestic appliances producing hot water. The series is supporting several Ecodesign and Energy labelling Regulations related to water heaters, hot water storage tanks and packages of water heater and solar device -such as (EU) 811/2013/EU or (EU) 812/2013.

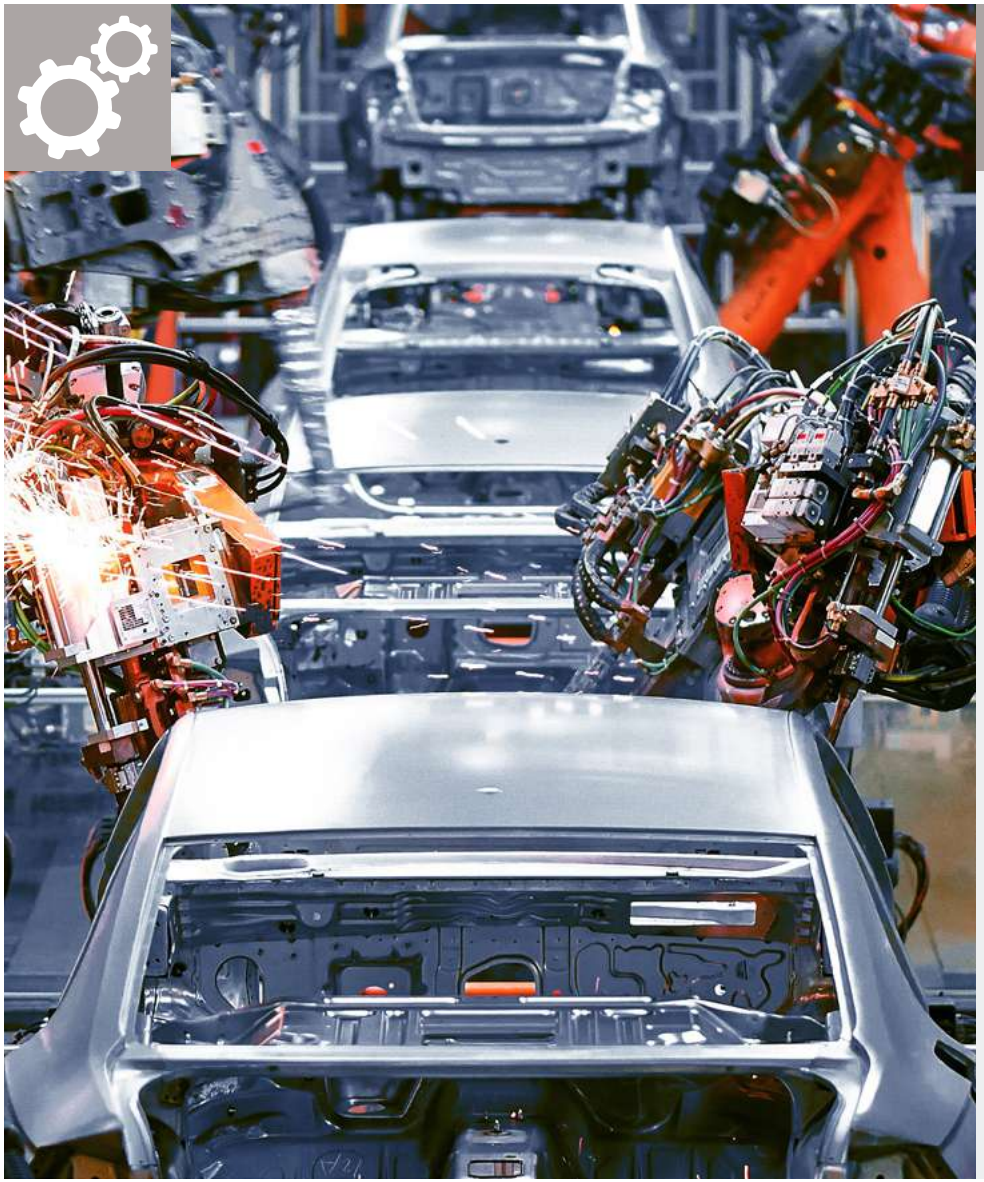
HEATING, COOLING AND VENTILATION EQUIPMENT (HVAC EQUIPMENT)

The HVAC sector includes applications ranging from appliances burning gas or oil and solid fuels to refrigeration, heat pumps and heat exchanger for ventilation. In this sector, CEN and CENELEC develop and revise Harmonized Standards (hENs) that provide dedicated methods for measuring the energy performance of various energy-related products against the compulsory values and thresholds laid down in the Ecodesign and Energy labelling Regulations adopted by the European Commission.

The work is being carried out by various CEN and CENELEC technical committees in the framework of different Standardization Requests relating to Ecodesign, notably M/534 (Water heaters), M/535 (Space heaters), and M/560 (Air heating and cooling products). In addition, the work under M/551 (Solid fuel boilers) and M/550 (local space heaters) was concluded.

In 2021, CEN/TC 113 'Heat pumps and air conditioning units' published EN 1397:2021 'Heat exchangers - Hydronic room fan coil units - Test procedures for establishing the performance'.

In the same year, CEN/TC 57 'Central heating boilers' published EN 303-5ssss 'Heating boilers - Part 5: Heating boilers for solid fuels, manually and automatically stoked, nominal heat output of up to 500 kW - Terminology, requirements, testing and marking'. This standard was developed in support of the Machinery Directive and Ecodesign and Energy labelling regulations.



MECHANICAL AND MACHINERY

The standards included in the sector of mining and metals address the definition, classification, testing, analysis and technical delivery requirements for products of the metal industry.

A remarkable number of standards in this sector support several pieces of legislation, such as the new Pressure Equipment Directive, the Simple Pressure Vessels Directive and the Construction Products Regulation. Moreover, European standardization in this field features a close collaboration with international standardization, with around 30% of iron- and steel-related standards adopted from, or developed in collaboration with, ISO.

LABORATORY, OPTICAL AND PRECISION EQUIPMENT (EXCL. GLASSES)

CEN/TC 123 'Lasers and Photonics' published EN ISO 11146-1:2021 'Lasers and laser-related equipment - Test methods for laser beam widths, divergence angles and beam propagation ratios - Part 1: Stigmatic and simple astigmatic beams' and EN ISO 11146-2:2021 'Lasers and laser-related equipment - Test methods for laser beam widths, divergence angles and beam propagation ratios - Part 2: General astigmatic beams'. These two standards are important because they specify methods for measuring beam widths (diameter), divergence angles and beam propagation ratios of laser beams.

With regards to 'Optical radiation safety and laser equipment', CLC/TC 76 published EN 50689:2021 'Safety of laser products - Particular Requirements for Consumer Laser Products in support of the General Product Safety Directive (GPSD), and Low Voltage Directive (LVD)' in 2021.

AGRICULTURAL MACHINERY AND MOTOR-OPERATED ELECTRIC TOOLS

CEN/TC 144 'Tractors and machinery for agriculture and forestry' is responsible for tractors and machines used in agriculture and forestry as well as gardening, landscaping, irrigation and other related areas. 65% of its publications are developed in cooperation with the corresponding ISO/TC 23. Most of these standards are prepared in support of the Machinery Directive (2006/42/EC) and Pesticides Directive (2009/128/EC) and therefore are a good example of bringing together European requirements with an internationally accepted approach.

The EN ISO 4254 is a very important series of standards for agriculture machinery in support of the Machinery Directive (2006/42/EC). Part 1 contains common requirements for different types of machinery which are further dealt with by the respective specific parts. In 2021, CEN/TC 144 together with ISO/TC 23 finalised the amendment to the Part 1 i.e.: EN ISO 4254-1:2015/A1:2021 'Agricultural machinery - Safety - Part 1: General requirements' which improves the safety of boarding means for operator stations and extends the operator's manual.

CEN/TC 144 also published two other significant documents under the Machinery Directive (2006/42/EC):

- EN 16517:2021 'Agricultural and forestry machinery – Mobile yarders for timber logging – Safety', a brand new standard which provides the safety requirements for equipment used in work on rough terrains for the maintenance of forests;
- EN 703:2021 'Agricultural machinery - Safety - Silage loading, mixing and/or chopping and distributing machines' improves the existing requirements and introduces new ones for example on stability, immobilisation and remote control.

The role of CLC/TC 116 'Safety and environmental aspects of motor-operated electric tools' is to adapt the standards of corresponding IEC/TC 116 to the requirements of the Machinery Directive (2006/42/EC). In 2021, the TC published four important standards:

- EN IEC 62841-2-3:2021 + A11:2021 'Particular requirements for hand-held grinders, disc-type polishers and sanders' replaces an old standard and brings improvements and clarifications;
- EN IEC 62841-3-7:2021-05 + A11:2021, 'Particular requirements for transportable wall saws'. This is an important document because up to now, there was no European standard existing for this type of machines;

- EN IEC 62841-4-3:2021-10 + A11:2021, 'Particular requirements for pedestrian controlled walk-behind lawnmowers' replaces an old standard and brings improvements and clarifications;
- EN IEC 62841-4-5:2021 + A11:2021, 'Particular requirements for grass shears' also replaces an old standard and brings improvements and clarifications.

INDUSTRIAL MACHINERY EXCLUDING MACHINERY FOR THE PRODUCTION AND USE OF MECHANICAL POWER

In 2021, CEN/TC 10 'Lifts, escalators and moving walks' concluded work on the following two important revisions:

- EN 12158-1:2021 'Builders' hoists for goods - Part 1: Hoists with accessible platforms' in support of the Machinery Directive (2006/42/EC) updates the list of hazards and modified the static calculation requirements;
- EN 115-2:2021 'Safety of escalators and moving walks - Part 2: Rules for the improvement of safety of existing escalators and moving walks' provides the requirements for existing lifts with the aim of reaching a level of safety equivalent to that of a newly installed escalator and moving walk by the application of today's state of the art for safety.

CEN/TC 142 'Woodworking machines – Safety', together with ISO/TC 39, published in 2021 eight standards in support of the Machinery Directive (2006/42/EC) within the EN ISO 19085 series. Among them, the most important are the following revisions:

- EN ISO 19085-1:2021 'Woodworking machines - Safety - Part 1: Common requirements (ISO 19085-1:2021)' on the common requirements for different types of woodworking machines;
- EN ISO 19085-3:2021 'Woodworking machines - Safety - Part 3: Numerically controlled (NC/CNC) boring and routing machines (ISO 19085-3:2021)' on the most widespread machines of the sector, in which the examples were added for all the possible machine configurations and designs.

CEN/TC 147 'Cranes – Safety' developed four standards in 2021. Among them, it is worth mentioning a brand new EN 13852-3:2021

'Cranes - Offshore cranes - Part 3: Light offshore cranes' and the revision of EN 13001-2:2021 'Crane safety - General design - Part 2: Load actions' in support of the Machinery Directive (2006/42/EC).

CEN/TC 150 'Industrial Trucks – Safety' published the following three brand new standards focussed on visibility:

- EN 16842-5:2021 'Powered industrial trucks - Visibility - Test methods and verification - Part 5: Industrial variable-reach trucks greater than 10 000 kg capacity';
- EN 16842-8:2021 'Powered industrial trucks - Visibility-Test methods and verification - Part 8: Stand-on counterbalance trucks up to and including 10 000 kg capacity';
- EN ISO 18063-2:2021 'Rough-terrain trucks - Visibility test methods and their verification - Part 2: Slewing rough-terrain variable-reach trucks (ISO 18063-2:2021)' in support of the Machinery Directive (2006/42/EC).

Another very important standard finalised by CEN/TC 150 in 2021 is EN 1459-9:2021 'Rough-terrain trucks - Safety requirements and verification - Part 9: Variable-reach trucks equipped with work platforms having a front guard that can be opened', which specifies controls and restraint devices to mitigate against the risk of falling from heights.

Furthermore, CEN/TC 153 'Machinery intended for use with foodstuffs and feed' finalised the important amendment EN 13870:2015+A1:2021 'Food processing machinery - Portion cutting machines - Safety and hygiene requirements' in support of the Machinery Directive (2006/42/EC). Thanks to this amendment, the types of machines have been adapted to the current state of the art, the automatic loading was included and the requirements for protective equipment were improved.

MACHINERY FOR MINING, QUARRYING, CONSTRUCTION EQUIPMENT

In 2021 CEN/TC 151 'Construction equipment and building material machines – Safety' published a new standard series that replaces three individual standards and provides updated and increased general and specific safety requirements for road operation machinery:

- EN 17106-1:2021 'Road operation machinery - Safety - Part 1: General requirements';
- EN 17106-2:2021 'Road operation machinery - Safety - Part 2: Specific requirements for road surface cleaning machines';
- EN 17106-3-1:2021 'Road operation machinery - Safety - Part 3-1: Winter service machines - Requirements for snow clearing machines with rotating tools and snow ploughs';
- EN 17106-3-2:2021 'Road operation machinery - Safety - Part 3-2: Winter service machines - Specific requirements for spreading machines';
- EN 17106-4:2021 'Road operation machinery - Safety - Part 4: Road service area maintenance machines - Requirements for grass and brush cutting machines'.

TANKS, RESERVOIRS, CONTAINERS AND PRESSURE VESSELS

In 2021, CEN/TC 74 'Flanges and their joints' continued the revision of the EN 1759 series on 'Flanges and their joint - Circular flanges for pipes, valves, fittings and accessories', which specifies dimensions, tolerances, materials, P/T ratings and technical conditions of delivery for steel flanges (still under development). In addition, EN 14772:2021, EN 13555:2021, EN 1515-4:2021, EN 1514-2:2014+A1:2021 were also published in 2021.

CEN/TC 269 'Shell and water-tube boilers' revised the EN 12952 series on 'Water-tube boilers and auxiliary installations' (EN 12952-2, -5, -6, -10) as well as the EN 12953 series on 'Shell Boilers'.

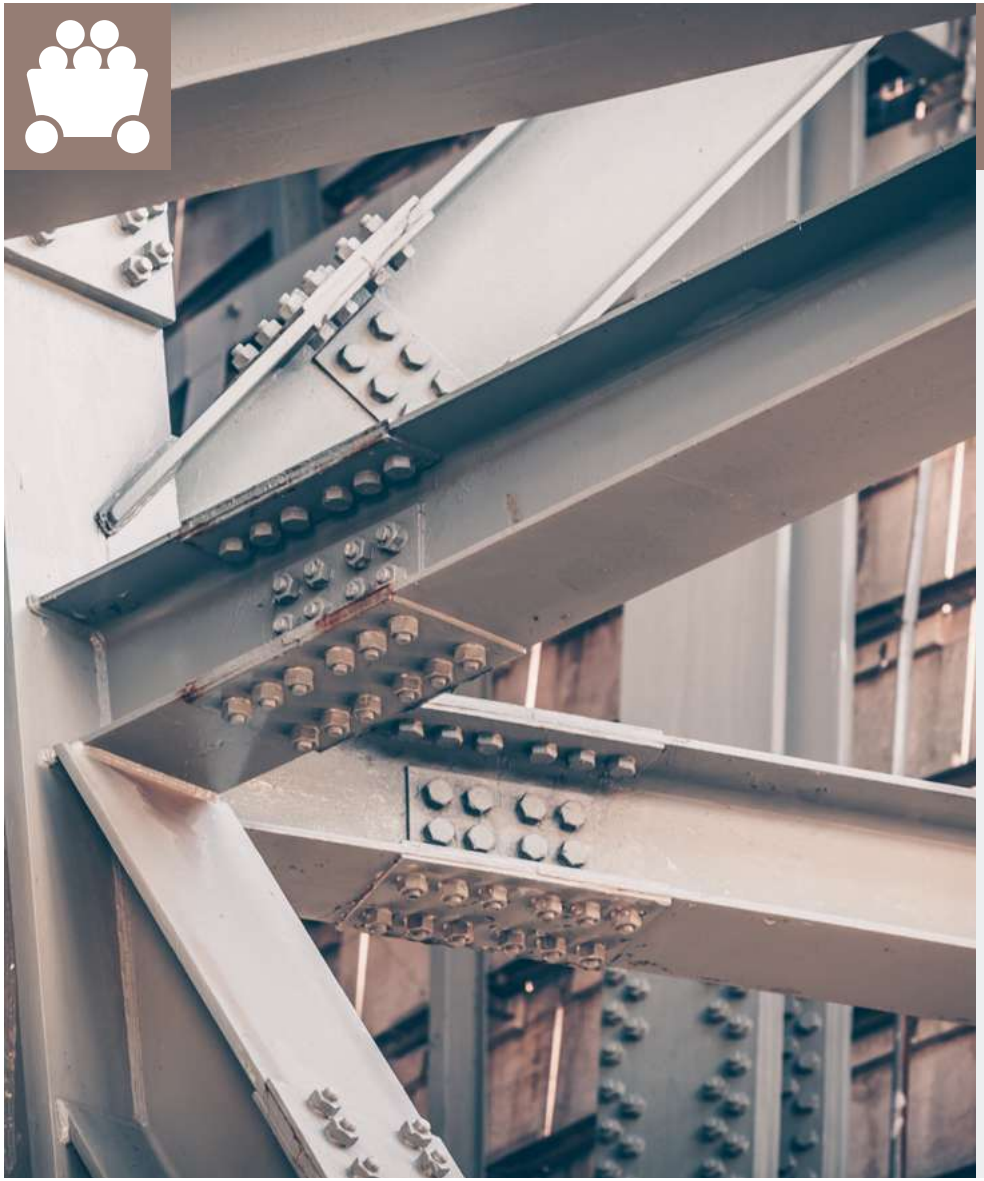
Finally, CEN/TC 237 'Gas meters' advanced on the drafting of the revision of EN 12261 'Gas meters - Turbine gas meters'. This standard, which sets the measuring conditions, requirements and tests for the construction, performance and safety of turbine gas meters, will support the Pressure Equipment Directive (still under development). The same TC also published a revision of EN 12405-1:2021 'Gas meters - Conversion devices - Part 1: Volume conversion'.

WELDING

In the course of 2021, CLC/TC 26 'Electric welding' started the revision of EN IEC 60974-1:2021 'Arc welding equipment - Part 1: Welding power sources' to address comments received from the Commission.

In the same period, CEN/TC 121 'Welding and allied processes' carried out the enquiry phase on EN 14717 'Welding and allied processes - Environmental check list'.

BUSINESS SECTORS



MINING AND METALS

The standards included in the sector of mining and metals address the definition, classification, testing, analysis and technical delivery requirements for products of the metal industry.

A remarkable number of standards in this sector support several pieces of legislation, such as the new Pressure Equipment Directive, the Simple Pressure Vessels Directive and the Construction Products Regulation. Moreover, European standardization in this field features a close collaboration with international standardization, with around 30% of iron- and steel-related standards adopted from, or developed in collaboration with, ISO.

IRON AND STEEL

CEN/TC 459 ' ECISS - European Committee for Iron and Steel Standardization' is responsible for the standardization of definition, classification, testing, chemical analysis and technical delivery requirements for iron and steel products and it is organised in eleven specialised subcommittees (SCs).

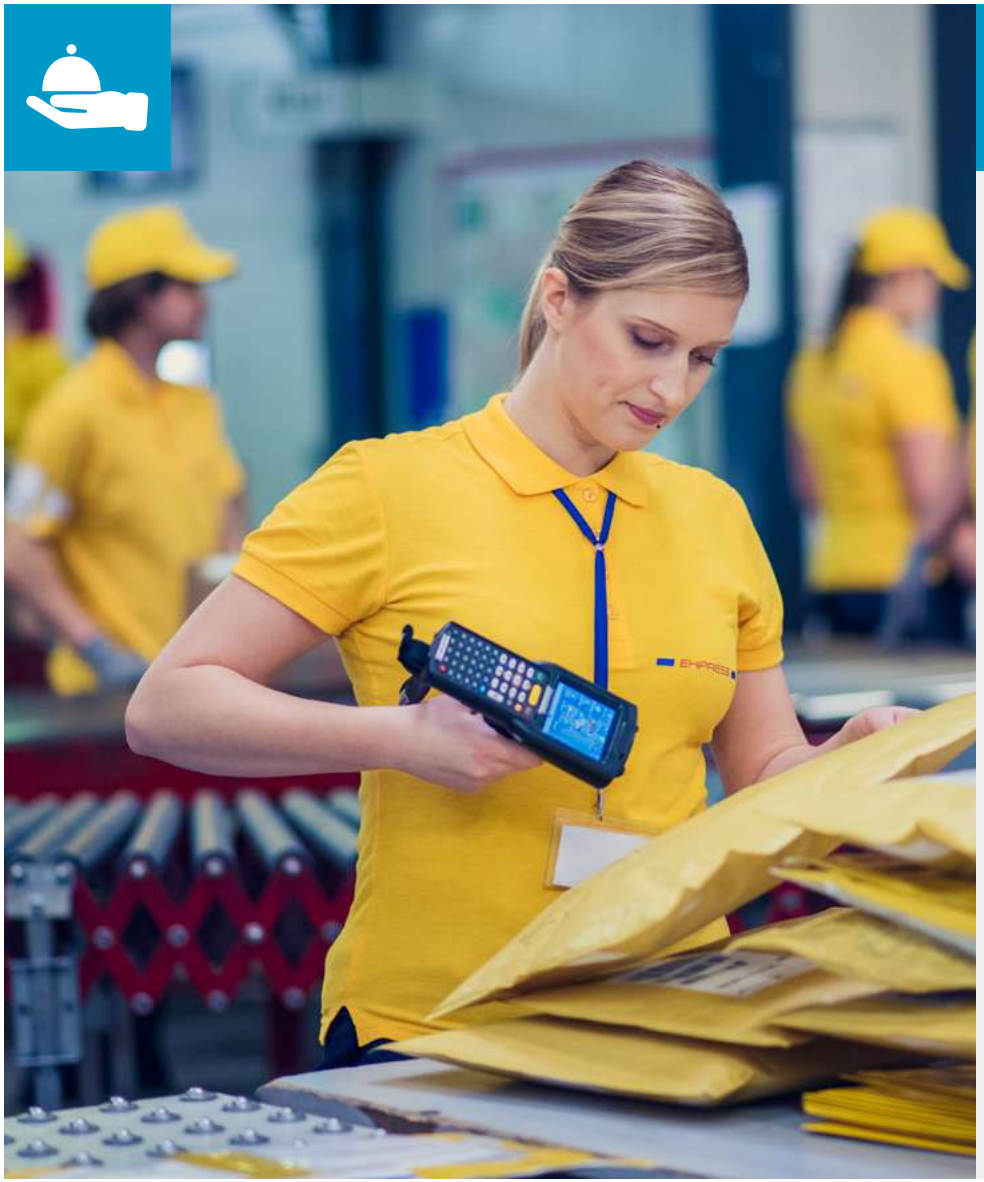
In 2021, CEN/TC 459 established its first Working Group, CEN/TC 459/WG 1 'Steel circular economy' that will work on the standard 'Non-alloy carbon ferrous scrap categories and related specifications'.

Some subcommittees of this TC, CEN/TC 459/SC 3 'Structural steels other than reinforcements', SC 10 'Steel tubes, and iron and steel fittings', and SC 11 'Steel castings and forgings', participated to the Subgroup 2 established under the CPR technical Acquis and provided input to mandate M/120 'Structural metallic products'.

CEN/TC 459/SC 10 'Steel tubes, and iron and steel fittings' published four standards under the Pressure Equipment Directive:

- EN 10253-2:2021 'Butt-welding pipe fittings - Part 2: Non alloy and ferritic alloy steels with specific inspection requirements';
- EN 10253-4:2021 'Butt-welding pipe fittings - Part 4: Wrought austenitic and austenitic-ferritic (duplex) stainless steels with specific inspection requirements';
- EN 10216-5:2021 'Seamless steel tubes for pressure purposes - Technical delivery conditions - Part 5: Stainless steel tubes';
- EN 10217-7:2021 'Welded steel tubes for pressure purposes - Technical delivery conditions - Part 7: Stainless steel tubes'.

BUSINESS SECTORS



SERVICES

Services represent two thirds of the EU's economy and are a vital sector for boosting its growth. The market share and the employment generated by services is expected to continue to increase, as the emergence of the collaborative economy, the digitisation and the servitisation of the manufacturing industry provide further growth opportunities for EU service businesses.

Driven by evolving consumer needs and digitisation, the interaction between services and manufacturing is growing across industries and more and more manufacturing businesses become service providers.

The Services Directive (2006/123/EU) sets out policy objectives to achieve the full potential of the services market in Europe, by removing technical and administrative barriers to the freedom of establishment. The Directive encourages the development of European standards to facilitate the cross-border provision of services.

Standards have a role to play in improving the integration and performance of the Single Market for services. Businesses can use standards as a tool to measure and improve the quality and performance of the services they are providing or purchasing. Standards are also a means of giving assurance to consumers, as they can help identify which suppliers are providing a high-quality service. This boosts consumer confidence and facilitates fair competition between service providers on the basis of quality as well as price.

BUSINESS SERVICES: LAW, MARKETING, CONSULTING, RECRUITMENT, PRINTING

In support of Standardization Request M/558, calling for a European standard on reporting in support of the supervision of online gambling services by national gambling regulatory authorities, CEN/TC 456 'Online gambling' developed EN 17531:2021 ‘Reporting in support of supervision of online gambling services by the gambling regulatory authorities of the Member States’.

This standard aims at providing a voluntary tool for use by the National Regulatory Authorities, without prejudice to the scope of competence of Member States in the regulation of online gambling.

In addition, the committee, which was originally created to fulfil M/558 only, broadened its scope to include the creation of standards for online gambling identified and proposed by regulatory authorities, operators, suppliers, or any other stakeholder, for the benefit of the sector and its participants.

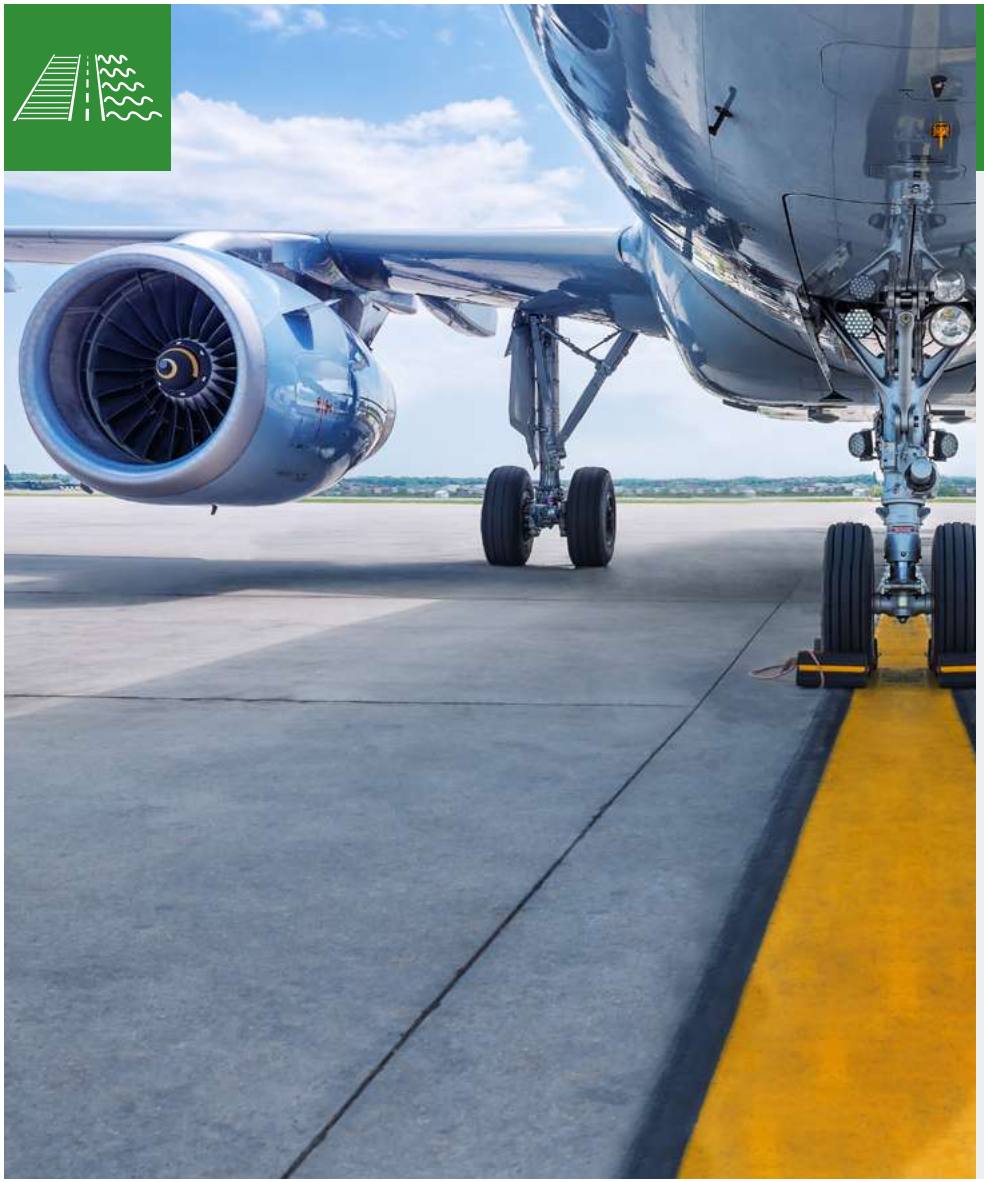
REPAIR AND MAINTENANCE SERVICES

In 2021, CEN/TC 319 'Maintenance' published EN 17485:2021 'Maintenance - Maintenance within physical asset management - Framework for improving the value of the physical assets through their whole life cycle', which specifies methods and procedures when applying physical asset management as a framework to take maintenance into account as an influencing factor within an organisation's strategic and tactical decisions on its physical assets, and when applying physical asset management as a framework to maintenance activities.

FINANCIAL AND INSURANCE SERVICES

In 2021, CEN/TC 445 'Digital information Interchange in the Insurance Industry' published CEN/TR 17419-2:2021 'Digital information interchange in the insurance industry - Transfer of electronic documents - Part 2: Implementation of EN 17419-1 in Open API 3.0 specification'. This is the second part of the 17419 series and exemplifies a concrete implementation of EN 17419-1:2020 as an Open API specification.

BUSINESS SECTORS



TRANSPORT AND VEHICLES

Many of the deliverables developed and adopted by CEN and CENELEC in the sector of transport and vehicles respond to Standardization Requests and are Harmonized Standards (hENs) supporting the implementation of relevant European legislation, such as the Directives relating to the interoperability of Europe's rail system (2016/797/EU), the recreational crafts and personal watercrafts (2013/53/EU), the deployment of alternative fuels infrastructure (2014/94/EU) and the cableway installations designed to carry passengers (2016/424/EU).

AIRCRAFT AND SPACECRAFT, AND RELATED EQUIPMENT

CEN and CENELEC are coordinating the development of harmonized standards for small (<25 kg) 'buy and fly' drones, in line with the European Aviation Safety Agency's (EASA) Opinion 2018/001.

Work on the issue is performed under a Delegated Act within the frame of Standardization Request M/567 on Unmanned Aircraft Systems (UAS). In 2021, a revision was in progress to include UAS of categories C5 and C6 in the Standardization Request. The approval at CoS and CEN level is foreseen during the 1st quarter of 2022.

Furthermore, a first draft standard for UAS (Unmanned Aircraft Systems) open category reached Formal Vote stage (EN 4709-002).

CEN and CENELEC continued coordinating the development of standards for space products and applications within CEN-CLC/JTC 5 'Space', managed by the European Coordination for Space Standardization (ECSS), in line with the new EU Space Programme and as required in Standardization Request M/496 on the Space industry (expected to be renewed in 2022).

CEN-CLC/JTC 5 also worked on deliverables on satellites, with the development and prospection of new Galileo applications. It also drafted the EN 16803 series of standards to support Global Navigation Satellite Systems (GNSS). These activities address the Ecosystem 'Aerospace and Defence' identified by the European Commission in its Industrial Strategy.

SHIPS, BOATS AND RELATED EQUIPMENT

The recently created CEN/TC 464 'Small Craft' collaborated with its international counterpart, ISO/TC 188, to review and revise its Harmonized Standards in line with the requirements of the latest EU Directive on Recreational craft and Personal watercraft 2013/53/EU. In particular, the TC's work focussed on 'Wastewater treatment' (EN ISO 8099-2:2021) and 'Steering Systems' (EN ISO 8847:2021, EN ISO 23411:2021, and EN ISO 8848:2021). The revision work will continue on multiple parts of the series of standards dedicated to Stability and Scantling.

In support to the Marine equipment Directive 2014/90/EU, CEN and CENELEC developed a standard on 'Fire hose for marine use' and another one on 'Public address and general emergency alarm systems' (EN 50695:2021).

MOTOR VEHICLES, VEHICLE BODIES, TRAILERS OR SEMI-TRAILERS, PARTS AND ACCESSORIES FOR VEHICLES AND THEIR ENGINES

In 2021, CEN/TC 301 'Road vehicles' published EN 17507:2021, a standard dedicated to performance assessment of the Portable Emission Measuring Systems (PEMS) for road vehicles. This standard is of crucial importance following the turmoil affecting the automotive industry on the emissions performance of vehicles. This document defines the procedures for assessing the performance of PEMS equipment, which is used for the on-road measurement of tailpipe emissions of light-duty vehicles, on the basis of a common test procedure that simulates the range of conditions experienced during on-road tests. It will benefit the industry, consumers and regulators.

CEN/TC 301 also progressed with the revision of the series of standards EN ISO 18541 supporting the Mandate M/421 (Vehicle OBD, repair and maintenance information).

In the electric vehicles sector, the same TC published a new standard, EN ISO 19363, on the safety and interoperability requirements for the magnetic power transfer in electrically propelled road vehicles.

In relation to alternative fuels vehicles, CLC/TC 23H 'Plugs, Socket-outlets and Couplers for industrial and similar applications, and for Electric Vehicles' finalised the standard needed for the deployment of electric buses.

Furthermore, in 2021, a new Standardization Request on Alternative fuels infrastructure ('AFI 2') was submitted. The purpose of this Standardization Request is to replace currently existing M/533, to support the future revision of Directive 2014/94/EU on existing and new fields of AFI standardization. The CEN-CENELEC SRAHG issues a positive recommendation to the CEN and CENELEC Technical Boards for the adoption of the Request.

The part of the work related to alternative fuels for cars and trucks will require the expertise and involvement of several TCs active directly or indirectly on motor vehicles standards: amongst them, CEN/TC 301 'Road vehicles', CLC/TC 69X 'Electrical systems for electric road vehicles', CLC/TC 9X 'Electrical and electronic applications for railways', and CEN/TC 268 'Cryogenic vessels and specific hydrogen technologies applications'.

In the hydrogen application for transport, CEN/TC 268 'Cryogenic vessels and specific hydrogen technologies applications' completed the revision of EN 17124:2022 on product specification and quality assurance for Proton exchange membrane (PEM) fuel cell applications for hydrogen propelled road vehicles.

CABLE-SUPPORTED TRANSPORT SYSTEMS WITH CABINS

CEN/TC 242 'Safety requirements for passenger transportation by rope' developed in 2021 the revision of EN 15700 'Safety for conveyor belts for winter sport or leisure use', a standard that is important for the safety of children using those devices.

RAILWAY AND TRAMWAY LOCOMOTIVES AND ROLLING STOCK AND ASSOCIATED PARTS

In the railways sector, CEN and CENELEC, together with ETSI, participate in the Sector Forum Rail, which brings together representatives from the railway industry (supply industry and networks), relevant European and international organisations (such as UIC, UNIFE, UITP), and experts from Technical Committees.

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

In this context, in 2021, negotiations progressed on the new Standardization Request connected to Directive 797/2016/EU. This massive Standardization Request mainly aims at updating and maintaining the current collection of Harmonized Standards.

In 2021, CEN/TC 256 published several major standards in the field of aerodynamics, platform barrier systems, wheelsets and bogies, braking, acoustics, tracks, driver's cabs, wheel-rail contact geometry parameters, maintenance and axleboxes.

An important project in railways standardization for 2021 was the continuation of the revision of a very important set of standards by CLC/TC 9X, the EN 50122 series. This series of standards is dedicated to electrical safety, earthing and the return circuit of fixed installations. Part 1 deals with the protective provisions against electric shock, Part 2 with the provisions against the effects of stray currents caused by d.c. traction systems, and Part 3 with the mutual interaction of a.c. and d.c. traction systems. The impact of this series of standards is huge, as its range of application is not only trains but also other transport systems. Indeed, it applies to all new lines and to all major revisions of existing lines for railways, tramways, trolleybus systems, elevated and underground railways, mountain railways, electric traction supplies for road vehicles, and magnetically levitated systems which use a contact line system. Also, this series of standards is of major importance as it supports Directive 2016/797/EU in the frame of the Standardization Request on the Interoperability of the rail system within the European Union.

ROAD EQUIPMENT AND MISCELLANEOUS TRANSPORT EQUIPMENT

In the frame of the future deployment of automated vehicles, CEN/TC 226 'Road Equipment' investigated on the needs and possibilities to improve road signalling. At the end of 2021, a first TR was close to finalisation: CEN/TR 17828 ‘Road infrastructure - Automated vehicle interactions - Reference Framework Release 1’.

TRANSPORT OF DANGEROUS GOODS

CEN and CENELEC develop and adopt standards to support the implementation of EU Directives on the inland transportation of dangerous goods (2008/68/EC) through the referencing of CEN and CENELEC standards in the ADR (Agreement concerning the International Carriage of Dangerous Goods by Road) and RID (the Regulation concerning the International Carriage of Dangerous Goods by Rail).

In 2021, CEN/TC 286 ‘Liquefied petroleum gas equipment and accessories’ worked on the revision of EN 12252, the standard that specifies equipment and accessories for road tankers used for the transport of Liquefied Petroleum Gas (LPG) and identifies the equipment that is considered necessary to ensure that filling, transportation and

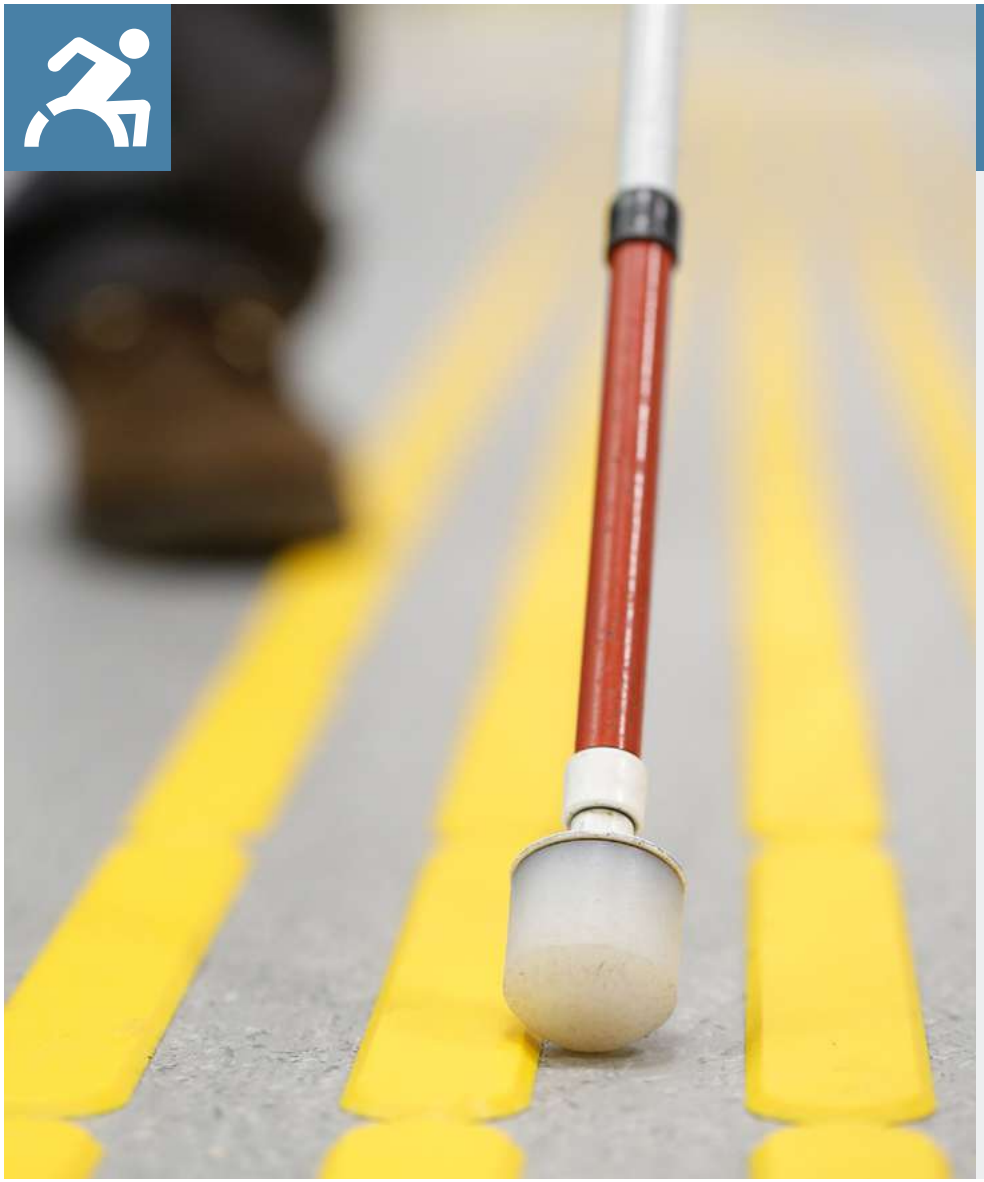
discharge operations can be carried out safely. CEN/TC 286 also initiated the revision of EN 14129 on the pressure relief valves for LPG pressure vessels.

Finally, CEN/TC 23 'Gas cylinders' initiated the revision of EN ISO 11623 on the periodic inspection and testing of composite construction for gas cylinders. The same TC also developed EN ISO 23826 on the specification and testing of ball valves.

HYPERLOOPS

The new Joint Technical Committee CEN-CLC/JTC 20 'Hyperloop systems' started developing a first set of standards dedicated to terminology, general requirements, systems aspects and services aspects related to hyperloops.

CEN-CLC/JTC 20 also established a liaison with the relevant technical committees from the railways sector (CEN/TC 256 'Railway applications', see above).



ACCESSIBILITY

The adoption of the 'European Accessibility Act' (Directive EU 2019/882) in 2019 was a big step forward to promote the inclusion of the 80 million persons with disabilities in Europe. The Directive includes common accessibility requirements for a wide range of products and services. European standardization has a role to play in ensuring the proper functioning of the EU internal market for accessible products and services, by developing consensus-based requirements and specifications.

European Standards are powerful tools to promote accessible products and services that people with functional limitations, including persons with disabilities, can use, operate and understand on an equal basis with others. Persons with disabilities and ageing people, among others, benefit directly from a product, good or service when it is easy to access, understand and use.

STRATEGIC ADVISORY GROUP ON ACCESSIBILITY

The CEN/BT/WG 213 Strategic Advisory Group on Accessibility (SAGA) continued to act as the key coordinating group for CEN and CENELEC related to accessibility and Design for All.

In particular, in 2021, SAGA simplified the 'CEN and CENELEC Protocol on accessibility following a Design for All approach in standardization' in order to broaden its reach and facilitate its use. SAGA continued supporting the work of CEN and CENELEC technical bodies by providing recommendations on how to approach their deliverables taking into account accessibility, and by encouraging training and education.

In addition, SAGA worked on a document entitled 'Guidelines for Accessible Word and PDF Documents', which will help standardisers and other stakeholders, including in academia, to make their documents more accessible.

eACCESSIBILITY

The CEN-CLC-ETSI Joint Working Group eAccessibility worked on the revision the EN 301549:2021 'Accessibility requirements for ICT products and services'. The new standard is a revision of a previous version, published in 2019, and will be offered for citation in the Official Journal of the EU (OJEU) under Directive (EU) 2016/2102. Once the EN is cited in the OJEU, compliance with the normative clauses confers a presumption of conformity with the corresponding essential requirements of the Directive.

ACCESSIBILITY IN THE BUILT ENVIRONMENT

The accessibility of the built environment is a key element to assure the effective participation of EU citizens in the everyday life, as well as the suitability of the buildings, streets, parks, to being effectively used by people notwithstanding their disabilities or age.

On this field, CEN-CLC/JTC 11 'Accessibility in the built environment' worked on standardization deliverables as requested by Standardization Request M/420 (Accessibility in built environment). In 2021, CEN-CLC/JTC 11 published CEN/TR 17621:2021 covering technical performance criteria and specifications and CEN/TR 17622:2021 on conformity assessment related to the accessibility and usability of the built environment. Those deliverables complement EN 17210 'Accessibility and usability of the built environment - Functional requirements', which was also published in 2021.

THE CEN-CENELEC PRESIDENTIAL COMMITTEE (PC)

CEN and CENELEC Presidential Committee meeting on 10 February 2022. First row, from left to right: Mrs Ewa Zielińska, CENELEC Vice-President Policy; Mr Wolfgang Niedziella, CENELEC President; Mr Stefano Calzolari, CEN President; Mrs Elena Santiago Cid, CEN and CENELEC Director General; Mr Frédéric Vaillant, CENELEC Vice-President Technical.
Second row, from left to right: Mr Olivier Peyrat, CEN Vice-President Policy; Mrs Annika Andreasen, CEN Vice-President Technical; Mrs Femke Aarts, CENELEC Vice-President Finance* (in post until April 2022); Mr Jacob Mehus, CEN Vice-President Finance.

The Presidential Committee (PC) is a joint corporate body of CEN and CENELEC. It manages and administers activities with respect to non-sector specific matters of common interest to both associations, including matters subject to common administration and to common policy. Issues dealt with by the PC extend to membership, relations with the European Union, relations with societal stakeholder organisations, international cooperation activities, common communication and visibility activities, linking standardization with research and innovation and the optimization of resources.

In 2021, the PC was composed of the two President of CEN and CENELEC (Vincent Laflèche and Dany Sturtewagen), the two Presidents-elect of CEN and CENELEC (Stefano Calzolari and Wolfgang Niedziella), the three Vice Presidents of CEN (Ruggero Lensi, Jacob Mehus, Christoph Winterhalter), the three Vice Presidents of CENELEC (Geraldine Larkin, Frédéric Vaillant, Ivano Visitainer) and the CEN and CENELEC Director General (Elena Santiago Cid).

The PC meets regularly – at least twice per year – and reports to the respective Administrative Boards of CEN and CENELEC.

IMPROVING SUPPORT TO THE TECHNICAL WORK

Over the course of 2021, CEN and CENELEC focussed on measures to support a better implementation of the flexible standards development process, by simplifying the procedure to change the initial planning (i.e. activate the one-change option), improving available IT tools, creating guidance on CEN and CENELEC BOSS and uploading the recordings with skilled TC secretaries to provide explanations/examples of main duties for TC secretaries.

Moreover, CEN and CENELEC's Technical Boards approved a set of measures for the simplification of the governance at technical level and worked on their implementation, in particular with the aim of increasing the delegation of responsibilities from the Technical Boards to the Technical Bodies.

The Technical Boards also agreed to add, starting from July 2021, a sentence in the foreword of ENs, TRs and TSs, to inform customers on how to provide feedback on published documents: the National Standards Bodies (for CEN) and the National Committees (for CENELEC) will be the contact points at national level. This feedback mechanism is expected to strengthen the relationship between customers and standards setting organisations with the objective to increase the quality of deliverables in future.

In addition, in 2021 both CEN and CENELEC Technical Boards have approved the new forms for New Work Items (NWIP). The new forms contain a new section on how Work Items can help to support the United Nations Sustainable Development Goals (SDGs) and provide clarifications on how to better plan for NWIs under the flexible standards process (such as target dates).

NEW MEMBERSHIP CRITERIA

In 2021, a revision of Guide 22 took place following the adoption of a new definition of membership resulting from the June 2021 revision of the CEN and CENELEC Statutes and of the Internal Regulations Part 1D. Three different categories of member organisations have been established based on their relationship to the European Economic Area (EEA) and the Single Market:

- **Blue-type Members:** Members of the EEA;
- **Red-type Members:** Members of EFTA which are not Blue-type Member or states identified by the EU institutions as candidate countries for accession to the EU;
- **Yellow-type Members:** having an agreement with the EU and demonstrating regulatory convergence or compatibility with the essential regulations that support the Single Market in areas that are relevant to CEN and CENELEC activities.

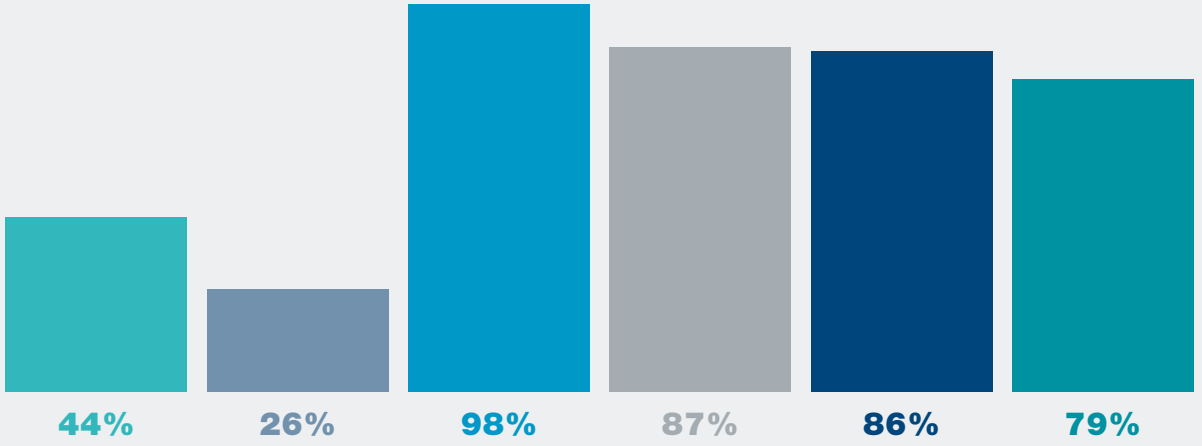
This new categorisation of membership is accompanied by the establishment of a third assessment model in addition to the self-assessment combined with EN ISO 9001 and the peer assessment: the external assessment. Yellow-type member organisations need to undergo an external assessment on their fulfilment of the membership criteria when applying for membership and then every third year after becoming a member. The assessors are appointed by the CEN and CENELEC Administrative Boards on recommendation of the Presidential Committee.

A RESILIENT CEN AND CENELEC MANAGEMENT CENTRE

On 1 January 2022, 84 people were working at the CEN and CENELEC Management Centre (CCMC), a stable workforce compared to January 2021. This second year of remote working offered an opportunity to undertake a comprehensive review of the organisation's human capital around two main axes:

- the HR Management process, as part of the certification against EN ISO 9001;
- CCMC's capacity to devise medium-term succession planning.

Whilst the new ways of working were established, it became critical to understand the various personal realities and expectations, in order to prepare for a balanced and appealing future working environment.



In order to address the fact that the lines between personal lives and work lives became blurred, a dedicated Mental Wellbeing coaching programme was offered on a voluntary participation basis. The initiative was welcome by many colleagues. The programme covered eight different themes: personal values; clarity in life; patterns and metaprograms; parents teleworking with kids; loneliness; sadness; fear and anxiety; disappointment.

Retention in times of uncertainty is a challenge that CCMC addresses with a renewed robust and transparent work frame, that gives space for increased individual flexibility and promotes the personal experience of working for a caring employer.

This approach is confirmed and strengthened by the employees' engagement. Some data from an internal survey among CEN and CENELEC's employees:

- **91%** stated that the mission and purpose of the organisation makes them proud and that their jobs are important;
- **91%** declared that their fellow colleagues are committed to doing a quality work.

The office located at Rue de la Science ensures a full implementation of the transition to smart working, allowing for a collaborative and flexible 'activity-based' working environment, as it enables the staff to have at every moment, whatever their activity, the environment best suited to the nature of the task. The facilities team is deeply involved to provide its continuous support to this way of working. In 2021, due to the COVID-19 pandemic, and to safeguard the health and well-being of the staff while ensuring business continuity, full-time homeworking remained compulsory. The return of the staff to the office was progressively organised in line with the Belgian authorities' regulations.

Also the **CEN and CENELEC Meeting Centre** reopened again on 13 September 2021, in full compliance with these regulations and under strict conditions (such as maximum occupancy, social distancing, hygiene rules…).

Therefore, the Meeting Centre continued offering a professional environment for the Technical Committees to meet and work on standards development, while at the same time it continued adapting to trends and needs of its customers. Some additional efforts were made in order to propose alternatives to physical meetings by providing tools and support to full or partly remote meetings. In the COVID-19 context, CEN and CENELEC ensured that all measures were taken to guarantee the smooth running of the planned meetings in a safe and efficient environment.

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2021 ANNUAL REPORT

European Committee for Standardization

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CEN ADMINISTRATIVE BOARD

The CEN Administrative Board (CEN/CA) manages and administers CEN's business, directing the work and coordinating the actions of all CEN bodies with the aim of executing the decisions taken by the General Assembly (AG). The CEN/CA also takes all steps that it considers necessary to achieve CEN's corporate goals in its dealings with various partners and interlocutors, including national, European or international authorities and other organizations.

The CEN/CA, which normally meets three times per year, comprises the CEN President, three Vice-Presidents (Finance, Policy and Technical) and up to nine ordinary Board Members, all of whom are appointed by the whole CEN membership. The Director General of CEN and CENELEC also participates in CEN/CA meetings and acts as Secretary.

THE PRESIDENT

Mr Stefano Calzolari
CEN President

THE VICE-PRESIDENTS

Mr Jacob Mehus
Finance

Mr Olivier Peyrat
Policy

Mrs Annika Andreasen
Technical

BOARD MEMBERS

Mrs Tatjana Bojanic
ISS, Serbia

Mr Urs Fischer
SNV, Switzerland

Mrs Geraldine Larkin
NSAI, Ireland

Mr Ruggero Lensi
UNI, Italy

Dr Scott Steedman
BSI, UK

Mr Gheorghe Tucu
ASRO, Romania

Mrs Helena Vänska
SFS, Finland

Mr Christoph Winterhalter
DIN, Germany

CEN OFFICERS IN 2022

President: Mr Stefano Calzolari

A civil engineer and entrepreneur, Mr Stefano Calzolari is the founder and the General Manager of SCLIngegneria Strutturale, an SME with a team of 22 professionals operating in the field of structural design. He was the President of Milan's Order of Engineers from 2009 and 2016, and has been a Member of the Board of the "National Council of Engineers" since then, where he is in charge of standardization and certification of technical competences. Furthermore, he has gained an extensive experience in standardization, both at technical level, as the Italian expert in CEN/TC 53 'Temporary Works Equipment' and Chairman of CEN/TC 344 'Steel Static Storage System', and at governance level: since 2017 he is UNI's Vice-President. To these skills, he adds a professional background as an expert of qualifications, especially in the field of competences: he founded and chaired the Italian Agency for Voluntary Competences Certification, CERT'ING. In June 2020, Mr Stefano Calzolari was elected as the next President of CEN (2022-2024). His mandate as President started in January 2022.

Vice-President Finance: Mr Jacob Mehus

Mr Jacob Mehus is Managing Director of Standards Norway (SN). He has previously held positions as Marketing Manager and Marketing Director with the organization, and he headed the sales company Standard Online for a while. Before joining Standards Norway, his work experience included research at the Norwegian Institute of Building Research. Mr Mehus has extensive domestic and international experience in management, project management, marketing and sales. Among other things, he has worked extensively with IT development as a prerequisite for business development and rationalization, and he is concerned with standardization as a force for innovation. Mr Jacob Mehus holds a Master of Science degree from Iowa State University and has post-graduate courses in economics and management from Stanford University, USA. He has been serving as CEN Vice-President Finance since 1 January 2020.

CEN OFFICERS IN 2022

Vice-President Policy: Mr Olivier Peyrat

Mr Olivier Peyrat has been Director General of the French Association for Standardization (AFNOR) since 2003. He has completed studies at the Ecole Polytechnique, the École nationale supérieure des télécommunications (ENST), Ecole des Hautes Etudes Commerciales (Executive MBA) and INSEAD Business School. Mr Peyrat has a long-standing professional experience in the fields of certification and standardization and has chaired numerous standardization committees and groups at national, European and international levels. He became Vice-President (Finance) of ISO in January 2013. He is an Ingénieur en Chef au Corps des Mines (Hon) and Chevalier de la Légion d'Honneur. He has been elected to serve as CEN Vice-President Policy for a two-year mandate starting in January 2022.

Vice-President Technical: Mrs Annika Andreasen

Mrs Annika Andreasen is the CEO of the Swedish Institute for Standards, SIS. At SIS she previously held the position of Head of Standardization. Before SIS, she built a career in the private sector, working in a variety of leadership positions for two of Sweden's most important multinational companies, Saab AB (2008-2017) and Ericsson AB (1992-2008). A software engineer by training, Mrs Andreasen started her career as a business consultant. She holds a degree in Electronics and Data from Blekinge University and studied Marketing and Business Economics at Uppsala University. After serving two years as a CEN Board Member, she was elected as CEN's Vice-President Technical for a two-year mandate starting in January 2022.

BOARD MEMBERS 2022

Mrs Tatjana Bojanic - ISS, Serbia

Mrs Tatjana Bojanic is the Director of the Institute of Standardization of Serbia (ISS), a role she has covered since December 2018. Before that, she was Acting Director since 2015, ISS' Head of Department for Legal, Human Resource and Common Affairs for five years. A lawyer by training, Mrs Bojanic had previously worked as Chief Inspector at the Serbian Ministry of Interior (2006-2010), Legal Adviser for a private company and journalist for the radio television of Serbia (1995-2006). She is a member of ISO DEVCO CAG and has worked with the Serbian Ministry of the Economy and Finance on the drafting of the Law on Amendments to the Law on Standardization and the Regulation on Amending the Regulation on the application procedure and manner of information relating to technical regulations, standards and conformity assessment. Mrs Bojanic holds a degree in Law from the Pristina University and is currently enrolled in a Master's degree in Finance and Accounting. She started her mandate as CEN's Board Member in January 2019.

Mr Urs Fischer – SNV, Switzerland

Mr Urs Fischer is the CEO of the Swiss Association for Standards, SNV, since 2017. Before SNV, he built a career in the private sector, working in a variety of positions for a series of companies, in Switzerland and internationally: an aircraft engineer by training, he started in aircraft maintenance to then move on to leadership positions in the space and aircraft industry. His last position before joining SNV was as Head of Product Technology at Vetropack AG. He also built an extensive expertise in European and international standardization, serving as a national delegate for both CEN and ISO. Mr Fischer holds a degree in Aircraft Engineering from Transair College in Geneva and a second degree in Mechanical Engineering from ITA College ITA in Zürich. He was elected as CEN's Board Member for a two-year mandate starting in January 2022.

BOARD MEMBERS 2022

Mrs Geraldine Larkin - NSAI, Ireland

Mrs Geraldine Larkin has been Chief Executive at NSAI, the National Standards Authority of Ireland, since March 2017. Before being appointed at the head of NSAI, Geraldine was the Irish regulator in diverse industries, including the private security sector. As the first regulator of the private security industry, Mrs Larkin drew heavily on Irish and European standards including in the areas of security guarding, electronic security and cash conveyancing in order to regulate the developing industry. Previously, as a career civil servant she held a diverse portfolio of policy responsibilities including in the areas of policing, crime, anti-drug trafficking, criminal law, human rights and European law. She represented Ireland in various EU and international committees in these subject matter areas. Mrs Larking holds a Masters Degree in Business Administration (MBA – Technology Management) from the Open University. Mrs Larkin served as CENELEC's Vice-President Policy and has now been elected to CEN's Board for a mandate starting in January 2022.

Mr Ruggero Lensi - UNI, Italy

Mr Ruggero Lensi has been the Director General of the Italian Standardization Organization (UNI) since February 2017. He joined UNI in 1995, holding the positions of Head of the Standardization Department between 2000 and 2003, Technical Director until 2010 and Director of External Relations, New Business and Innovation until February 2017. Mr Lensi represented UNI for ten years on the CEN Technical Board (BT), where he served as Convenor of several Working Groups and also chaired the CEN/BT Technical Committee Management Group between 2004 and 2007. He holds a degree in Civil Engineering from the Polytechnic University in Milan. He was CEN Vice-President Technical from 1 January 2018 to 31 December 2021, and now has been elected for a mandate as CEN's Board Member starting in January 2022.

BOARD MEMBERS 2022

Dr Scott Steedman - BSI, UK

Dr Scott Steedman is Director of Standards at BSI, the National Standards Body of the United Kingdom. Formerly an academic at Cambridge University, Dr Steedman spent 20 years in industry working for major consulting and contracting companies in the construction sector. He is an Executive Director on the Group Board of BSI and a non-executive Director of the Port of London Authority. He was elected President of the European Council for Construction Research, Development and Innovation in 1997, a position he held for 11 years. Dr Steedman has been a Vice-President of both the Institution of Civil Engineers and the Royal Academy of Engineering. In 2010, he was awarded a CBE for his services to engineering. Dr Steedman served as CEN Vice-President Policy from 2013 to March 2017.

Mr Gheorghe Tucu - ASRO, Romania

Mr Gheorghe Tucu is Managing Partner and founder of Valeg Creative Solutions. He has been the President of ASRO, the Romanian Standards Association, since 2003. Since 2012 he has been a Board Member of the Romanian Accreditation Association (RENAR). Mr Tucu has also developed an extensive experience at the European level: he was a Board Member of CEN from 2006 to 2013 and of CENELEC from 2009 to 2012. Finally, from 2009 to 2010 he has also been a Member of the EXPRESS Panel of the European Commission on the review of the European Standardization System. An electrical engineer by education, he has built a career in the automation and energy sectors. After being the CEO and President of the Board of the Research Institute for Automation, IPA S.A, he worked as Country Manager for Honeywell Romania, Kelag Warme Romania and AB Energy Romania being, in the meantime, a Board Member at the Romanian Energy Efficiency Fund. He started his mandate as CEN's Board Member in January 2019.

BOARD MEMBERS 2022

Mrs Helena Vänska - SFS, Finland

Mrs Helena Vänska has been the CEO of the Finnish Standards Association, SFS, since 2019. Before that, she built an extensive career in both the private and the public sector: she was the Managing Director at the Finnish Petroleum and Biofuels Association for ten years, the Chief Policy Adviser of the Confederation of Finnish Industries and served in the EU Secretariat of Finland's Prime Minister's office and as Chief Adviser to the Ministry of Transport and Communications. Mrs Vänska holds a Master of Science in Forest Economics and Marketing. She has been elected as CEN's Board Member for a two-year mandate starting in January 2022.

Mr Christoph Winterhalter - DIN, Germany

Mr Christoph Winterhalter is the Chairman of the Executive Board of DIN, the German national standardization body. Prior to joining DIN, he worked in various engineering, R&D and product management functions in Germany, Norway and the USA. He then spent more than 20 years in industry working for the ABB group, as Director of the German Research Centre for ABB Corporate until he was promoted head of ABB's global Machinery Controls and Automation business in 2013. Since July 2016 he joined DIN as Chairman of the Executive Board driving customer orientation and digital transformation within the standardization system. Mr. Winterhalter was elected member of the CEN Administrative board and the ISO Council in 2017. He served as CEN Vice-President Policy from 1 January 2018 to 31 December 2021, and has been elected for a two-years mandate as CEN Board Member starting in January 2022

CEN ADMINISTRATIVE BOARD IN 2021

PRESIDENTS AND VICE-PRESIDENTS

President: Mr Vincent Laflèche
President-Elect : Stefano Calzolari
Vice-President Finance: Mr Jacob Mehus
Vice-President Policy: Mr Christoph Winterhalter
Vice-President Technical: Mr Ruggero Lensi

BOARD MEMBERS 2021

Mrs Annika Andreasen (SIS, Sweden)
Mrs Tatjana Bojanic (ISS, Serbia)
Mr Enda Mc Donnell (NSAI, Ireland)
Mr Olivier Peyrat (AFNOR, France)
Dr Elisabeth Stampfl-Blaha (ASI, Austria)
Dr Scott Steedman (BSI, United Kingdom)
Dr Bogdan Topič (SIST, Slovenia)
Mr Gheorghe Tucu (ASRO, Romania)
Mr Rik van Terwisga (NEN, the Netherlands)

CEN AT A GLANCE

	European Standards	Workshop Agreements	Technical Specifications	Technical Reports	European Standards identical to International Standards (ISO)
IN 2021	903	15	61	73	524
Deliverables published in 2021	1 056				
OVERALL ON 31 DECEMBER 2021	16 209	486	580	639	5 903
Portfolio at the end of 2021	18 003				

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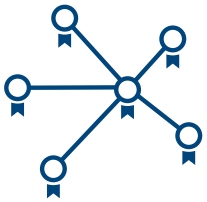
CEN COMMUNITY



34
National Standardization Organisations
(34 countries)

18
Companion Standardization Bodies

3
Affiliates

319
European Partners

2
Counsellors *(EC + EFTA)*

1
Associated Body

10
Partner Organisations

291
Liaison Organisations
(18 new liaisons in 2021)

6
European Institutional Stakeholders

18
Other Partner Organisations

398
Technical Committees
(TCs)

21
Joint Technical Committees
(CEN-CENELEC and CEN-CENELEC-ETSI)

1 618
Working Groups
(of TCs & SCs)

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CEN DEVELOPMENTS IN 2021

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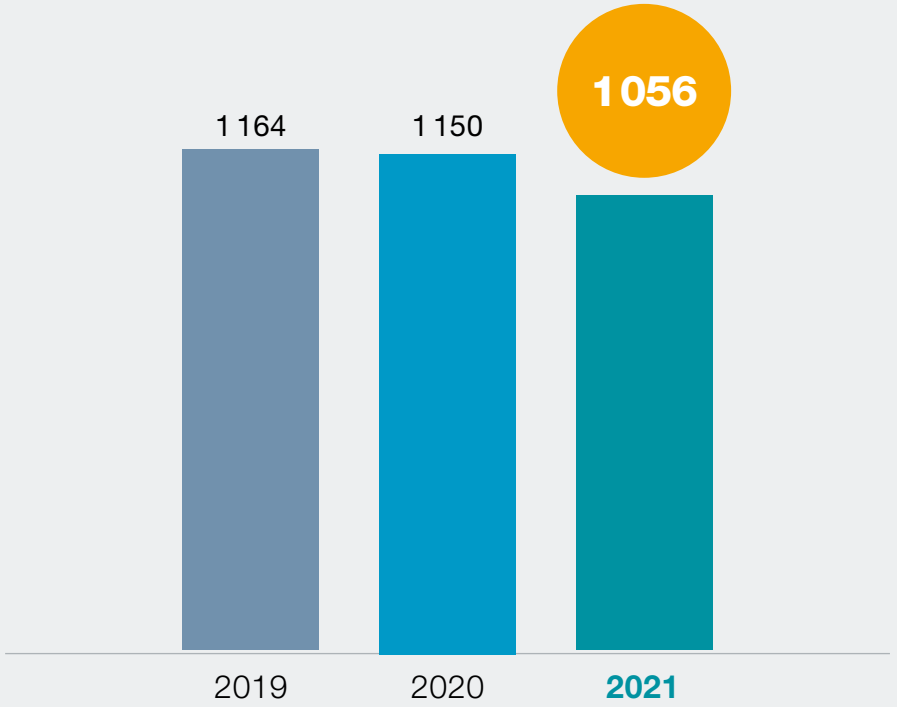
CEN DEVELOPMENTS IN 2021

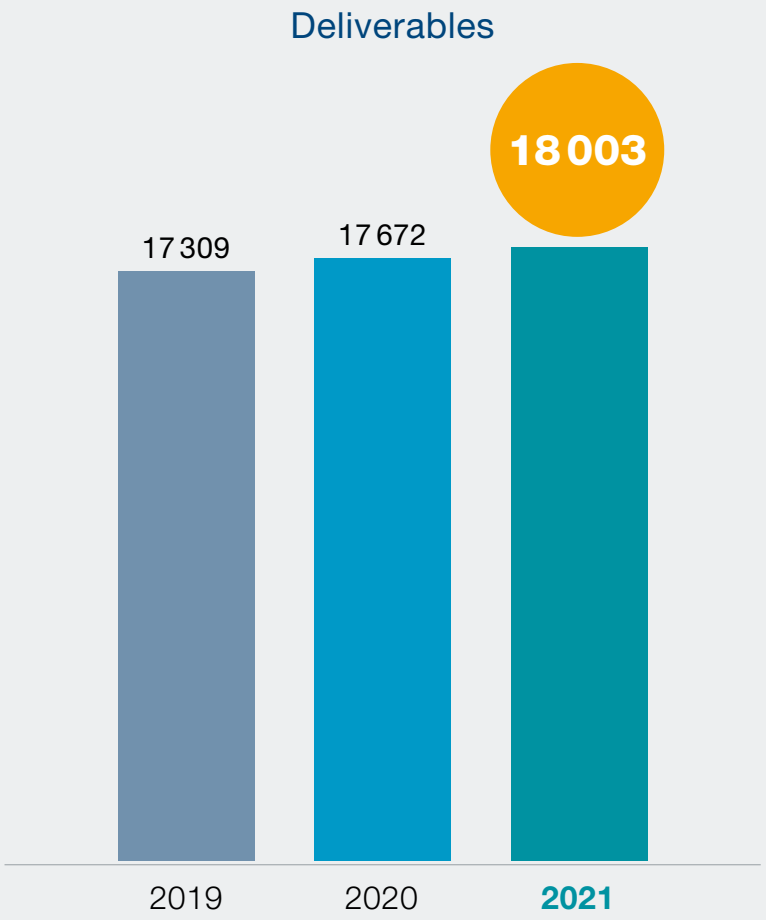
European Standards	903
Technical Specifications	61
Technical Reports	73
CEN Workshop Agreements	15
CEN Guides	4



DELIVERABLES*	2019	2020	2021
European Standards (ENs**)	1 071	982	903
Technical Specifications (TSs)	50	63	61
Technical Reports (TRs)	26	51	73
CEN Workshop Agreements (CWAs)	15	51	15
CEN Guides (CGs)	2	3	4
TOTAL	**1 164**	**1 150**	**1 056**

** Including deliverables of CEN and joint work of CEN-CENELEC and CEN-CENELEC-ETSI*
*** Excluding corrigenda*

CEN OVERALL AT THE END OF 2021



CEN TECHNICAL BODIES	2019	2020	2021
Active CEN Technical Committees (CEN/TCs)	321	319	332
Active CEN TC/Sub-Committees (CEN/TC/SCs)	57	58	45
CEN TC/SC Working Groups	1 535	1 488	1 530
Active Workshops	51	63	75
ASD-STAN, ECISS Technical Bodies	60	60	60
TOTAL	**2 024**	**1 988**	**2 042**

JOINT TECHNICAL BODIES*	2019	2020	2021
TOTAL	**65**	**72**	**76**

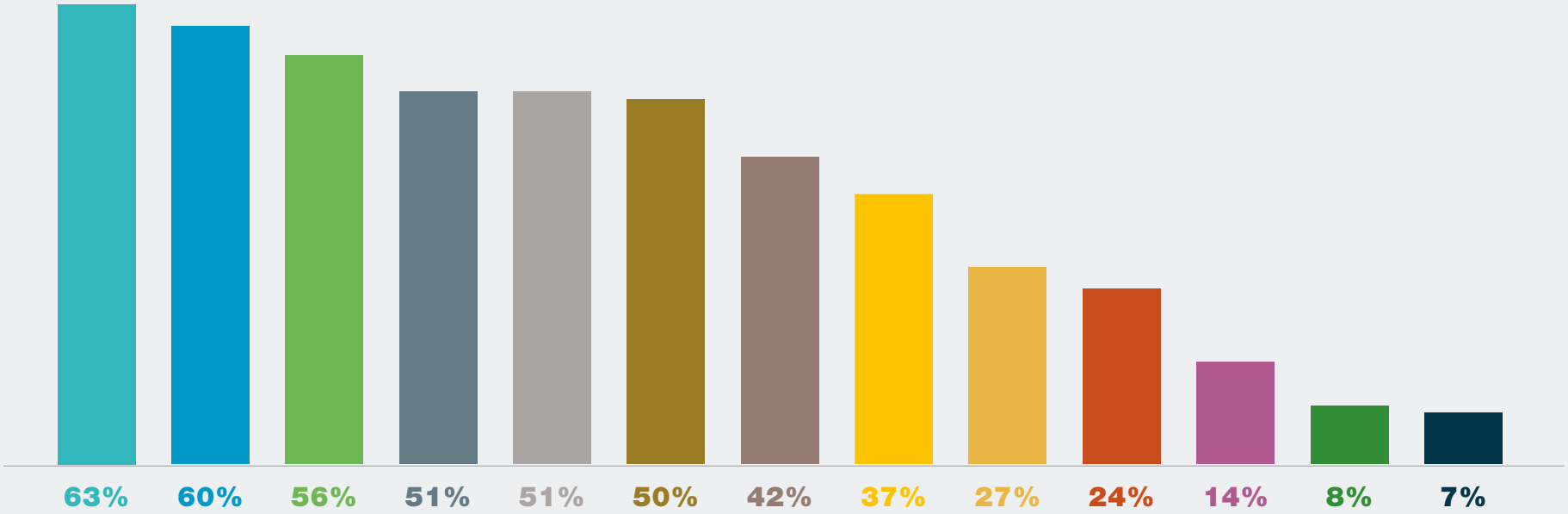
**CEN-CENELEC and CEN-CENELEC-ETSI*

DELIVERABLES*	2019	2020	2021
Standards (ENs)**	15 148	15 472	15 709
EN Amendments	457	499	500
Workshop Agreements (CWAs)	476	476	486
Technical Specifications (TSs)	534	553	580
Technical Reports (TRs)	546	581	639
Guides (CGs)	40	41	43
Pre-Standards (ENVs)	26	10	10
Reports (CRs)	82	40	36
TOTAL	**17 309**	**17 672**	**18 003**

**Including deliverables of CEN and of CEN-CENELEC-ETSI*
*** Excluding corrigenda*

INTERNATIONAL RELATIONS

CEN Portfolio - Percentage of deliverables per business domain identical to ISO publications



CEN Portfolio
Relation to ISO - at the end of 2021

DELIVERABLES*	Number	Percentage
Identical to ISO publications	5903	33,81%
Based on ISO publications	31	0,18%
Homegrown	11526	66,01%
TOTAL	**17460**	**100%**

**Excluding Corrigenda and Guides*

- Healthcare & Health and Safety
- Services
- Chemicals
- Consumer
- Mechanical & Machinery
- Food and agriculture
- Mining and Metals
- Energy and utilities
- Household appliances and HVAC
- Construction
- Digital society
- Transport and vehicles
- Defence and security

RELATION TO EUROPEAN UNION LEGISLATION

Total number of harmonized standards and other deliverables cited or intended for citation in the Official Journal of the European Union (OJEU) (including Amendments)

SECTORS	DIRECTIVE/REGULATION REFERENCE	END 2021
Accreditation and Market Surveillance 765/2008 36	765/2008	36
Active implantable medical devices 90/385/EEC 30	90/385/EEC	30
Cableways 2016/424 12	2016/424	12
Construction Products 305/2011 383	305/2011	383
Cosmetic Products 1223/2009 1	1223/2009	1
Ecodesign of energy using products 2015/1095 5	2015/1095	5
Ecodesign of energy using products 206/2012 3	206/2012	3
Ecodesign of energy using products 641/2009 3	641/2009	3
Ecodesign of energy using products 66/2014 1	66/2014	1
Ecodesign of energy using products 813/2013 5	813/2013	5
Ecodesign of energy using products 814/2013 3	814/2013	3
Ecodesign of energy using products 547/2012 1	547/2012	1
Ecodesign of energy using products 2016/2281 1	2016/2281	1
Ecodesign of energy using products 2015/1189 1	2015/1189	1
Electromagnetic compatibility 2014/30/EU 11	2014/30/EU	11
Energy Labelling 811/2013 3	811/2013	3
Energy Labelling 812/2013 3	812/2013	3
Energy Labelling 626/2011 2	626/2011	2
Energy Labelling 2015/1094 2	2015/1094	3
Energy Labelling 2015/1187 1	2015/1187	2
Explosive atmospheres 2014/34/EU 60	2014/34/EU	60
Explosives for civil use 2014/28/EU 57	2014/28/EU	57

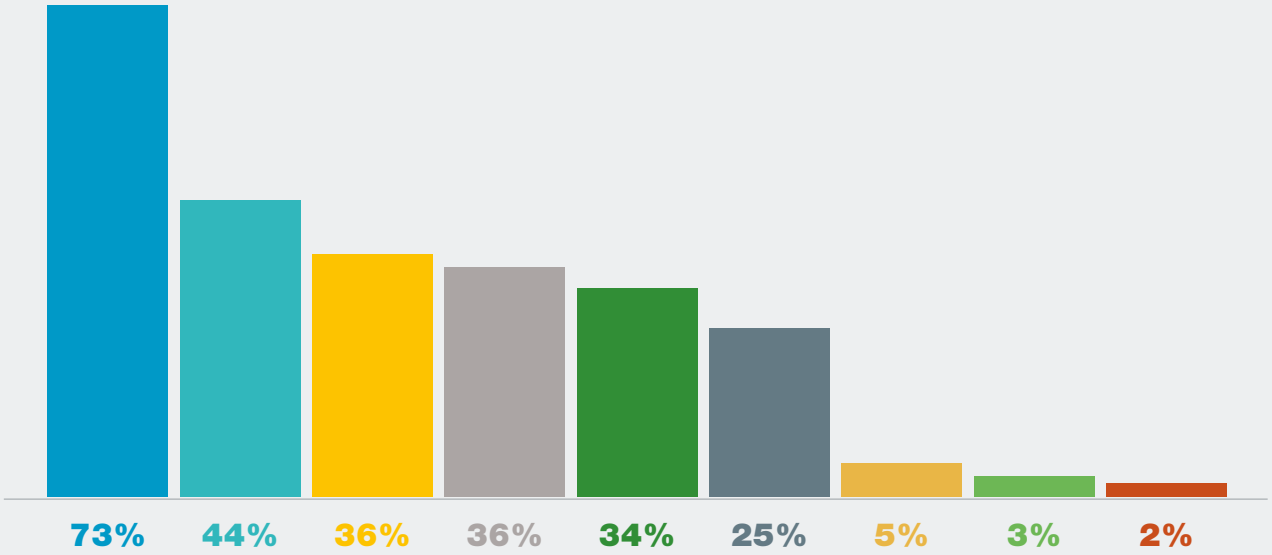
RELATION TO EUROPEAN UNION LEGISLATION (CONTINUED)

SECTORS	DIRECTIVE/REGULATION REFERENCE	END 2021
Gas appliances	2016/426	2
General product safety	2001/95/EC	68
In vitro diagnostic medical devices	98/79/EC	33
In vitro diagnostic medical devices	2017/746	14
Lifts	2014/33/EU	8
Low Voltage	2014/35/EU	1
Machinery	2006/42/EC	697
Measuring instruments	2014/32/EU	3
Medical devices	93/42/EEC	117
Medical devices	2017/745	18
Non-automatic weighing instruments	2014/31/EU	1
Packaging	94/62/EC	6
Personal protective equipment	2016/425	209
Postal Services	97/67/EC	8
Pressure equipment	2014/68/EU	201
Pyrotechnic articles	2013/29/EU	25
Railways	2008/57/EC	90
REACH	1907/2006	3
Recreational craft	2013/53/EU	55
Safety of Toys	2009/48/EC	10
Simple pressure vessels	2014/29/EU	3
Sustainable use of Pesticides	2009/128/EC	4
	GRAND TOTAL	2201

RELATION TO EUROPEAN UNION LEGISLATION

At the end of 2021, the CEN catalogue counted 18.003 deliverables of which 2201 (11,6%) were in support of EU legislation. Among this last total, 585 were identical or based on ISO publications.

Percentage of harmonized deliverables identical to ISO per sector



Portfolio of harmonized deliverables – at the end of 2021

DELIVERABLES*	Number	Percentage
Identical to ISO	582	27,82%
Based on ISO	3	0,14%
Homegrown	1 507	72,04%
TOTAL	**2092**	**100%**

All deliverables (excluding Corrigenda and Guides)

- Services
- Healthcare & Health and safety
- Energy and utilities
- Mechanical and machinery
- Transport and vehicles
- Consumer
- Household appliances and HVAC
- Chemicals
- Construction

ANNUAL ACCOUNTS

www.cencenelec.eu

ANNUAL ACCOUNTS

ASSETS (€ x 1000)*	**2019**	**2020**	**2021**
Fixed Assets	970	1 191	1 619
Current Assets	3 510	3 529	2 750
Liquid Assets	10 507	8 807	4 262
Prepaid Expenses and Accrued Income	144	205	545
TOTAL	**15 131**	**13 732**	**9 176**

LIABILITIES (€ x 1000)*	**2019**	**2020**	**2021**
Reserves	3 124	3 136	2 870
Provisions for liabilities and charges	1 835	1 744	1 511
Payable	7 016	4 393	2 796
Accrued expenses & deferred income	3 156	4 459	1 999
TOTAL	**15 131**	**13 732**	**9 176**

EXPENDITURE (€ x 1000)*	**2019**	**2020**	**2021**
Staff costs	6 784	7 204	7 430
Other operating costs	2 660	2 234	2 114
Contractual expenses	14 323	7 656	6 936
Digital Transformation costs	31	91	234
Digital Transformation / Use of provision	-31	-91	-234
Office move project costs	166	79	72
TOTAL	**23 933**	**17 173**	**16 552**

INCOME (€ x 1000)*	**2019**	**2020**	**2021**
Contributions	7 224	7 322	7 316
Interest	2	1	-
Contractual income	16 303	9 574	8 809
Miscellaneous	219	197	162
Loss of the year / Use of Reserves	166	79	72
Loss of the year	19	-	193
TOTAL	**23 933**	**17 173**	**16 552**

FINANCING OF THE CEN-CENELEC MANAGEMENT CENTRE (CEN Part)	**2019**	**2020**	**2021**
Membership fees	76%	78%	78%
EC/EFTA support to standardization	21%	20%	20%
Other support	3%	2%	2%
TOTAL	**100%**	**100%**	**100%**

** Figures are given in thousands of euro.*

THE CEN NETWORK

NATIONAL MEMBERS

Austria

ASI - Austrian Standards International
Standardization and Innovation
www.austrian-standards.at

Belgium

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

Bulgaria

BDS - Bulgarian Institute for Standardization
www.bds-bg.org

Croatia

HZN - Croatian Standards Institute
www.hzn.hr

Cyprus

CYS - Cyprus Organization for Standardisation
www.cys.org.cy

Czech Republic

UNMZ - Czech Office for Standards,
Metrology and Testing
www.unmz.cz

Denmark

DS - Dansk Standard
www.ds.dk

Estonia

EVS - Non-profit Association Estonian Centre
for Standardisation and Accreditation
www.evs.ee

Finland

SFS - Suomen Standardisoimisliitto r.y.
www.sfs.fi

France

AFNOR - Association Française de
Normalisation
www.afnor.org

Germany

DIN - Deutsches Institut für Normung
www.din.de/de

www.cencenelec.eu

Greece

NQIS/ELOT - National Quality Infrastructure System
www.elot.gr

Hungary

MSZT - Hungarian Standards Institution
www.mszt.hu

Iceland

IST - Icelandic Standards
www.stadlar.is

Ireland

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

Italy

UNI - Ente Italiano di Normazione
www.uni.com

Latvia

LVS - Latvian Standard Ltd.
www.lvs.lv

Lithuania

LST - Lithuanian Standards Board
www.lsd.lt

Luxembourg

ILNAS - Organisme Luxembourgeois de Normalisation
www.portail-qualite.lu

Malta

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

Netherlands

NEN - Nederlands Normalisatie-instituut
www.nen.nl

Norway

SN - Standards Norway
www.standard.no/

Poland

PKN - Polish Committee for Standardization
www.pkn.pl

Portugal

IPQ - Instituto Português da Qualidade
www1.ipq.pt/PT/Pages/Homepage.aspx

Republic of North Macedonia

ISRSM - Standardization Institute of the Republic of North Macedonia
www.isrsm.gov.mk/en/

Romania

ASRO - Romanian Standards Association
www.asro.ro

Serbia

ISS - Institute for Standardization of Serbia
www.iss.rs

Slovakia

UNMS SR - Slovak Office of Standards Metrology and Testing
www.unms.sk

Slovenia

SIST - Slovenian Institute for Standardization
www.sist.si

Spain

UNE - Asociación Española de Normalización
www.une.org

Sweden

SIS - Swedish Institute for Standards
www.sis.se

Switzerland

SNV - Schweizerische Normen-Vereinigung
www.snv.ch

Turkey

TSE - Turkish Standards Institution
www.tse.org.tr

United Kingdom

BSI - British Standards Institution
www.bsigroup.com

AFFILIATES

Albania

DPS - General Directorate of Standardization-Albania
www.dps.gov.al

Bosnia and Herzegovina

ISBIH - Institute for Standardisation of Bosnia and Herzegovina (ISBIH)
www.isbih.gov.ba

Montenegro

ISME - Institute for Standardization of Montenegro
www.isme.me

COMPANION STANDARDIZATION BODIES

Armenia

SARM - National Institute of Standards CJSC
www.sarm.am

Australia

SA - Standards Australia Limited
www.standards.org.au

Azerbaijan

AZSTAND - State Committee for Standardization of the Republic of Belarus
www.standard.gov.az

Belarus

BELST - State Committee for Standardization of the Republic of Belarus
www.gosstandart.gov.by

Cameroon

ANOR - Agence des Normes et de la Qualité
www.anorcameroun.info

NEW in 2021 Cote D'Ivoire

CODINORM - Côte d'Ivoire Normalisation
www.codinorm.ci/

Egypt

EOS - Egyptian Organization for Standardization and Quality (EOS)
www.eos.org.eg

Georgia

GEOSTM - Georgian National Agency for Standards and Metrology
www.geostm.ge

Israel

SII - Standards Institution of Israel
www.sii.org.il

Jordan

JSMO - Jordan Standards and Metrology Organization
www.jsmo.gov.jo

Kazakhstan

KAZMEMST - Committee for Standardization, Metrology and Certification
www.memst.kz/en/

Lebanon

LIBNOR - Lebanese Standards Institution
www.libnor.gov.lb/

Moldova, Republic of

ISM - Institute for Standardization of Moldova
www.standard.md

Mongolia

MASM - Mongolian Agency for Standardization and Metrology
www.masm.gov.mn

Morocco

IMANOR - Institut Marocain de Normalisation
www.imanor.ma

New Zealand

SNZ - Standards New Zealand, Ministry of Business, Innovation & Employment
www.standards.govt.nz

Tunisia

INNORPI - National Institute for Standardization and Industrial Property (INNORPI)
www.innorpi.tn

Ukraine

DSTU - Ukrainian scientific-research and training center of issues of standardization, certification and quality
www.uas.org.ua/ua/

EUROPEAN PARTNERS

PARTNER ORGANISATIONS

ANEC - The European Association for the Co-ordination of Consumer Representation in Standardisation
www.anec.eu

E.DSO - The European Distribution System Operators
www.edsoforsmartgrids.eu

ECOS - Environmental Coalition on Standards
www.ecostandard.org

ETUC - European Trade Union Confederation
www.etuc.org

ETUI - European Trade Union Institute
www.etui.org

EURALARM - Association of the European Fire and Security Industry
www.euralarm.org

FIEC - European Construction Industry Federation
www.fiec.eu

MedTech Europe - Alliance of European medical technology industry associations
www.medtecheurope.org

ORGALIM - Europe's Technology Industries
www.orgalim.eu

SBS - Small Business Standards
www.sbs-sme.eu

LIAISON ORGANISATIONS

ACE - Alliance for Beverages Cartons and Environment
www.beveragecarton.eu

ACE-CAE - Architects' Council of Europe
www.ace-cae.eu

ACEA - European Automobile Manufacturers' Association
www.acea.be

ACEM - Association des Constructeurs Européens de Motocycles
www.acem.eu

ACLEU - Association of Charity Lotteries in Europe
https://www.acleu.eu/

AECC - Association for Emissions Control by Catalyst AISBL
www.aecc.eu

AFECOR - European Control Manufacturers Association
www.afecor.org

AGE - AGE Platform Europe
www.age-platform.eu

AHE - AnimalhealthEurope
https://animalhealtheurope.eu/

AIB - Association of Issuing Bodies
www.aib-net.org

AIMEU - Advancing Identification Matters Europe
www.aimglobal.org/page/AIM_Europe

AISE - International Association for Soap, Detergents and Maintenance Products
www.aise.eu

APEAL - Association of European Producers of Steel for Packaging
www.apeal.org

APPLiA - Home Appliance Europe
www.applia-europe.eu

AQUA - Association Européenne des Fabricants de Compteurs d'Eau et de Compteurs d'Energie Thermique
www.aqua-metering.org

AQUA Europa - AQUA Europa
www.aqua-europa.eu

AQUA-3S - AQUA-3S
https://aqua3s.eu/

ARGE - The European Federation of Associations of Lock & Builders Hardware Manufacturers
www.arge.org

ASD - AeroSpace and Defence Industries Association in Europe
www.asd-europe.org

ASERCOM - Association of European Refrigeration Compressor Manufacturers
www.asercom.org

ASIS International - ASIS International
www.asisonline.eu

ATC - Technical Committee of Petroleum Additive Manufacturers in Europe AISBL
https://www.atc-europe.org/

ATVEA - All Terrain Vehicles Industry European Association
www.atvea.org

BBMRI-ERIC - Biobanking and Biomolecular Resources Research Infrastructure - European Research Infrastructure Consortium
www.bbmri-eric.eu

BCIA - Baby Carrier Industry Alliance
www.babycarrierindustryalliance.org

BIBM - International Bureau for Precast Concrete
www.bibm.eu

BIPAR - European Federation of Insurance Intermediaries
www.bipar.eu

CAOBISCO - Association of the Chocolate, Biscuit and Confectionery Industries of Europe
www.caobisco.eu

CECE - Committee for European Construction Equipment
www.cece.eu

CECIMO - European Association of the Machine Tool Industries
www.cecimo.eu

CECIP - European Weighing Industry Association
https://www.cecip.eu/

CECOD - Committee of European Manufacturers of petroleum Measuring and distributing Equipment
www.cecod.eu

CED - Council of European Dentists
www.cedentists.eu

CEFIC - European Chemical Industry Council
www.cefic.org

CEI-Bois - European Confederation of Woodworking Industries
www.cei-bois.org

CEIR - Comité Européen de l'Industrie de la Robinetterie
www.ceir-online.org

CEMA - European Committee of Associations of Manufacturers of Agricultural Machinery
www.cema-agri.org

CEMBUREAU - The European Cement Association
www.cembureau.be

CEPE - European Confederation of Paint, Printing Ink and Artists' Colours Industry
www.cepe.org

CEPI - Confederation of European Paper Industries
www.cepi.org

CEPIS - Council of European Professional Informatics Societies
www.cepis.org

CEPT - CERP - European Committee for Postal Regulations

CERAME-UNIE - The European Ceramic Industry Association
www.cerameunie.eu

CEWEP - Confederation of European Waste-to-Energy Plants
https://www.cewep.eu/

CICIND - International Committee on Industrial Chimneys
www.cicind.org

CIRFS - European Man-made Fibres Association
www.cirfs.org

CLECAT - European association for forwarding, transport, logistic and customs services
www.clecat.org

CONCAWE - the Environmental Science for the European refining Industry
www.concawe.org

CONFIAD - Pan-European Confederation of Customs Brokers and Custom Representatives
www.confiad.org

CORESTA - Centre de Coopération pour les Recherches Scientifiques Relatives au Tabac
www.coresta.org

CPE - Construction Products Europe
www.construction-products.eu

CoESS - Confederation of European Security Services
www.coess.eu

ComMUnion Project - ComMUnion Project
http://communionproject.eu/

Cosmetics Europe - The Personal Care Association
www.cosmeticseurope.eu

D4A - Diagnostics for Animals
https://diagnosticsforanimals.com/

DLMS UA - Device Language Message Specification User Association
www.dlms.com

DigitalEurope - The Voice of the European Digital Technology Industry
www.digitaleurope.org

EAACA - European Autoclaved Aerated Concrete Association
www.eaaca.org

EADPP - European Association of Data Protection Professionals
https://www.eadpp.eu/category/eadpp/

EAE - European Association for External Thermal Insulation Composite Systems
www.ea-etics.com

EAPA - European Asphalt Pavement Association
www.eapa.org

EAPFP - European Association for Passive Fire Protection
www.eapfp.com

EASEE-gas - European Association for the Streamlining of Energy Exchange-gas
www.easee-gas.eu

EBA - European Biogas Association
www.european-biogas.eu

EBB - European Biodiesel Board
www.ebb-eu.org

EBI - European Boating Industry
https://www.europeanboatingindustry.eu/

EBIC - European Biostimulans Industry Council
www.biostimulants.eu

EBPC - European Balloon & Party Council
www.ebpcouncil.eu

ECA - European Chimneys Association
www.eca-europe.org

ECA - European Cockpit Association
www.eurocockpit.be

ECA - The European Casino Association
www.europeancasinoassociation.org

ECAP - European Consortium of Anchors Producers
www.ecap-sme.org

ECCA - European Coil Coating Association
www.prepaintedmetal.eu

ECCO - European Confederation of Conservator-Restorers' Organisations
www.ecco-eu.org

ECCS - European Convention of Constructional Steelwork Associations
www.steelconstruct.com

ECF - European Cyclists' Federation
www.ecf.com

ECIA - European Cellulose Insulation Association
www.ecia.eu.com

ECLF - European Cycle Logistics Federation
https://eclf.bike/

ECMA - European Cylinder Makers Association
www.ecma.info

ECN e.V. - European Compost Network ECN e.V.
www.compostnetwork.info

ECO-Platform AISBL - ECO-Platform AISBL
www.eco-platform.org/

ECOBA - European Coal Combustion Products Association e.V.
www.ecoba.org

ECOFI - European Consortium of the Organic Fertilizer Industry
http://www.ecofi.info/

ECP - European Concrete Platform
www.europeanconcrete.eu

ECRC - the European Cool Roofs Council
coolroofcouncil.eu

ECSPA - European Calcium Silicate Producers Association
www.ecspa.org

EDA - European Demolition Association
https://www.europeandemolition.org/

EDANA - International Association Serving the Nonwovens and Related Industries
www.edana.org

EDF - European Disability Forum
www.edf-feph.org

EDSF - European Door and Shutter Federation e.V.
www.edsf.com

EENA - European Emergency Number Association
www.eena.org

EESPA - European e-Invoicing Service Providers Association
www.eespa.eu

EFBA - European Fertiliser Blenders Association
www.european-blenders.org

EFCA - European Federation of Engineering Consultancy Associations
www.efcanet.org

EFCA - European Federation of Concrete Admixtures Associations Limited
www.efca.info

EFCC - European Federation for Construction Chemicals
www.efcc.eu

EFCO&HPA - European Federation of Campingsite Organisations & Holiday Park Associations
www.efcohpa.eu

EFESME - European Federation for Elevator Small and Medium-sized Enterprises
www.efesme.org

EFLM - European Federation of Clinical Chemistry and Laboratory Medicine
www.efcclm.eu

EFNDT - European Federation for Non-Destructive Testing
www.efndt.org

EFSI - European Federation for Services to Individuals
http://efsi-europe.eu/home/

EFSN - European Fire Sprinklers Network
www.eurosprinkler.org

EFfCI - The European Federation for Cosmetic Ingredients
www.effci.com

EGBA - EGBA - the European Gaming and Betting Association
https://www.egba.eu/

EGEA - European Garage Equipment Association
www.egea-association.eu

EGGA - European General Galvanizers Association
www.egga.com

EGMF - European Garden Machinery Industry Federation
www.egmf.org

EGOLF - European Group of Organisations for Fire Testing, Inspection and Certification
www.egolf.org.uk

EHI - European Heating Industry
www.ehi.eu

EHP - Euroheat & Power
www.euroheat.org

EIA - European Irrigation Association
https://irrigationeurope.eu/en/

EIGA - European Industrial Gases Association
www.eiga.eu

EL - The European Lotteries Association
https://www.european-lotteries.org/

ELA - European Lift Association
www.ela-aisbl.org

EMFEMA - European Manufacturers of Feed Minerals Association
www.emfema.org

EMO - European Mortar Industry Organisation
www.euromortar.com

EMPIR nPSize Project - Improved traceability Chain of nanoparticle size measurements-nPSize- Project
https://www.bam.de/Content/DE/Projekte/laufend/nPSize/npsize.html

EN13606 - Vereniging EN 13606 Consortium
www.en13606.org

ENFSI - European Network of Forensic Science Institutes
www.enfsi.eu

ENPC - European Nursery Products Confederation
www.enpc.eu

EOQ - European Organization for Quality
www.eoq.org

EPBS - European Association for Professions in Biomedical Science
epbs.net

EPEE - European Partnership for Energy and the Environment
www.epeeglobal.org

EPFA - European Phenolic Foam Association
www.epfa.org

EPPA - European Perimeter Protection Association
www.eppasite.com

ERF - European Union Road Federation
www.irfnet.eu

ERF - European Racking Federation
www.erfed.org

ERGaR - European Renewable gas Registry
https://www.ergar.org/

ERMCO - European Ready-Mixed Concrete Organisation
www.ermco.eu

ERPA - European Recovered Paper Association
www.erpa.info

ESA - European Sealing Association
europeansealing.com

ESP - European Society of Pathology
www.esp-pathology.org

ESSA - European Security Systems Association
www.ecb-s.com

ESTC - EMEA Synthetic Turf Council
www.theesto.com

ESTIF - European Solar Thermal Industry Federation
www.estif.org

ESTP - European Society of Tattoo and Pigment Research
www.estpresearch.org

ESWA - European Single ply Waterproof Association
www.eswa-synthetics.org

ETF - European Transport Workers' Federation
www.etf-europe.org

ETRMA - European Tyre & Rubber Manufacturers' Association
www.etrma.org

ETSA - European Textile Services Association
www.etsa-europe.org

EUBA - European Bentonite Association
www.ima-europe.eu/about-ima-europe/associations/eu

EUMABOIS - European Committee of Woodworking Machine Manufacturers
www.eumabois.com

EUMEPS - European Manufacturers of Expanded Polystyrene
www.eumeps.org

EUMETNET - EUMETNET EIG
https://www.eumetnet.eu/glossary/eig-eumetnet/

EUMOS - European Safe Logistics Association
https://eumos.eu/

EURATEX - European Apparel and Textile Organization
www.euratex.org

EURIMA - European Insulation Manufacturers Association
www.eurima.org

EURO-AIR - European Association of Air Heater Manufacturers
www.euro-air.com

EUROBITUME - European Bitumen Association
www.eurobitume.eu

EUROFER AISBL - The European Steel Association AISBL
www.eurofer.eu

EUROFEU - European Committee of the Manufacturers of Fire Engines and Apparatus
www.eurofeu.org

EUROGYPSUM - Association of European Gypsum Industries
www.eurogypsum.org

EUROLUX - European Group for Rooflights and Smoke Ventilation
www.eurolux-eu.com

EUROMAT - The European Gaming and Amusement Federation
https://euromat.org/

EUROMINES - European Association of Mining Industries, Metal Ores & Industrial Minerals
www.euromines.org

EUROMOT - The European Association of Internal Combustion Engine Manufacturers
www.euromot.org

EUROPABio - European Association for BioIndustries
www.europabio.org

EUROPACABLE - European Confederation of Associations of Manufacturers of Insulated Wires and Cables
www.europacable.eu

EUROPEN - European Organization for Packaging and the Environment aisbl
www.europen-packaging.eu

EUROPUMP - European Committee of Pump Manufacturers
www.europump.org

EUROSLAG - The European Slag Association
www.euroslag.org

EUROSTRUCT - European Association on Quality Control of Bridges and Structures
https://eurostruct.org/

EUROVENT - Europe's Industry Association for Indoor Climate, Process Cooling, and Food Cold Chain Technologies
www.eurovent-association.eu

EUSA - European Union for Swimming Pool and Spa Associations
www.eusaswim.eu

EVA - European Vending Association
www.vending-europe.eu

EVIA - European Ventilation Industry Association
www.evia.eu

EWA - European Water Association
www.ewaonline.de

EWA Europe - European Waterproofing Association AISBL
www.ewa-europe.com

EWF - European Federation for Welding, Joining and Cutting
www.ewf.be

EWFA - European Window Film Association
https://ewfa.org/

EWIMA - European Writing Instruments Manufacturer's Association
www.ewima.org

EWJI - European Water Jetting Institute
https://www.ewji.org/

EWPM - European Wood Preservative Manufacturers Group
www.ewpm.org

EWRIS - European Federation of Steel Wire Rope Industries
www.ewris.com

EXCA - European Expanded Clay Association
www.exca.eu

EXPRA - Extended Producer Responsibility Alliance AISBL
https://www.expra.eu/

EeSA - The European eSkills Association
www.eskillsassociation.eu

EuCIA - European Composites Industry Association
www.eucia.org

EuLA - European Lime Association AISBL
www.eula.eu

EuPC - European Plastics Converters
www.plasticsconverters.eu

EuRIC - European Recycling Industries Confederation
https://www.euric-aisbl.eu/

EuSalt - European Salt Producers' Association
www.eusalt.com

EurECCA - European Cabin Crew Association
www.eurecca.aero

EuroWindoor AISBL - European window, door and curtain wall manufacturers
www.eurowindoor.eu

Eurogroup for animals - Eurogroup for animals
www.eurogroupforanimals.org

EuropeActive - EuropeActive
www.europeactive.eu

European Aluminium (former EAA) - European Aluminium
www.european-aluminium.eu

European Bioplastics - European Bioplastics
www.european-bioplastics.org

FAECF - Federation of European Window and Curtain Wall Manufacturers' Association
www.faecf.eu

FARECOGAZ - Association of European manufacturers of Gas Meters, Gas Pressure Regulators and associated Safety Devices and Stations
www.farecogaz.eu

FEA - European Federation of Aerosol
www.aerosol.org

FEAD - European Federation of Waste Management and Environmental Services
www.fead.be

FEFANA - EU Association of Specialty Feed Ingredients and their Mixtures
www.fefana.org

FEG - European Federation of Tourist Guide Associations
www.feg-touristguides.com

FEICA - The Association of the European adhesive and sealant industry
www.feica.eu

FEM - European Federation of Materials Handling and Storage Equipment
www.fem-eur.com

FEPE - European Envelope Manufacturers' Association
www.fepe.org

FESASS - Fédération Européenne pour la Santé Animale et la Sécurité Sanitaire

FESI - European Insulation Contractors Association
www.fesi.eu

FESI - Federation of the European Sporting Goods Industry
https://fesi-sport.org/

FEVE - The European Container Glass Federation
https://feve.org/

FICT - Fédération internationale des Cadres des Transports
https://fict.link/fr/

FIDE - European Dental Industry
www.fide-online.org

FIFA - Fédération Internationale de Football Association
www.fifa.com

FIGIEFA - International Federation of Automotive Aftermarket Distributors
www.figiefa.eu

FIM - Fédération Internationale de Motocyclisme
www.fim-live.com

FluoroCouncil Europe - FluoroCouncil Europe
https://fluorocouncil.com/

ForHumanity - ForHumanity Inc
https://forhumanity.center/

GCAQE - Global Cabin Air Quality Executive
gcaqe.org

GERG - European Gas Research Group
www.gerg.eu

GGGI - Global Ghost Gear Initiative c/o Ocean Conservancy
https://oceanconservancy.org/

GIE - Gas Infrastructure Europe
www.gie.eu

GME - Growing Media Europe
https://www.growing-media.eu/

GS1 - GS1
www.gs1.org

GS1 in Europe - GS1 in Europe
www.gs1.eu

GSA Europe - The Gaming Standards Association Europe
https://www.gamingstandards.com/

Glass for Europe - Glass for Europe
www.glassforeurope.com

GlobalPlatform - GlobalPlatform
www.globalplatform.org

H&W-EU Project Reclaim - Harms & Wende GmbH & Co. KG-EU Project Reclaim
https://www.reclaim-project.eu/project/

HE - Hydrogen Europe
https://hydrogeneurope.eu/

HL7 International Foundation - Health Level Seven International Foundation
www.hl7.eu

HOTREC - Hotels, Restaurants & Cafés in Europe
www.hotrec.eu

Hydrogen TCP - Hydrogen Technology Collaboration Programme
https://www.ieahydrogen.org/

ICOMIA - International Council of Marine Industry Associations
https://www.icomia.org/

IDF - International Dairy Federation
www.fil-idf.org

IFCC - International Federation of Clinical Chemistry and Laboratory Medicine
www.ifcc.org

IFMA - IFMA EMEA
https://emea.ifma.org/

IFRA - the International Fragrance Association
www.ifraorg.org

IGDF - The International Guide Dog Federation
www.igdf.org.uk

IGI - The Global Wallcoverings Association
www.igiwallcoverings.org

IHRSA - International Health, Racquet & Sportsclub Association
https://www.ihrsa.org/

ILSE - International Life Saving Federation of Europe
europe.ilsf.org

IMA-Europe - Industrial Minerals Association - Europe
www.ima-europe.eu/about-ima-europe/associations/eu

INP-Doc3DPrinting project - Institut National Polytechnique de Toulouse
http://www.doc-3d-printing.eu/

IOGP - International Association of Oil & Gas Producers
www.iogp.org.uk

ISA - International Sauna Association
https://saunainternational.net/

ISCC - International Sustainability and Carbon Certification
www.iscc-system.org

ISHRS - International Society of Hair Restoration Surgery
www.ishrs.org

ITA/AITES - International Tunnelling and Underground Space Association
https://www.ita-aites.org/

ITF - International Tennis Federation
www.itftennis.com

ITPE - IT Professionalism Europe
https://itprofessionalism.org/

IWMA - International Water Mist Association
www.iwma.net

IZA-Europe - International Zinc Association-Europe
www.zinc.org

Instand-NGS4P - Integrated and Standardized NGS Workflows for Personalised Therapy
https://www.instandngs4p.eu/

LEADing Practice - LEADing Practice
www.leadingpractice.com

LightingEurope - LightingEurope AISBL
www.lightingeurope.org

Liquid Gas Europe - the European LPG Association
www.liquidgaseurope.eu

MARCOGAZ - Technical Association of the European Natural Gas Industry
www.marcogaz.org

MI - Methanol Institute
www.methanol.org

Metals for Buildings - Metals for Buildings asbl
https://www.metalsforbuildings.eu/

NATRUE - International Natural and Organic Cosmetics Association
www.natrue.org

NFC Forum - Near Field Communication Forum
nfc-forum.org

NGVA Europe - Natural & bio Gas Vehicle Association
www.ngva.eu

NI - Nickel Institute
www.nickelinstitute.org

NIA - Nanotechnology Industries Association
www.nanotechia.org

NanoFabNet - NanoFabNet
https://nanofabnet.eu/

OMS-Group - Open Metering System Group
https://oms-group.org/

OpenPEPPOL - OpenPEPPOL AISBL
www.peppol.eu

PMA - Paraglider Manufacturers Association
https://p-m-a.info/

PPA Europe - European Association for Panels and Profiles
www.ppa-europe.eu

PRE - PRE Plastics Recyclers Europe
www.plasticsrecyclers.eu

PU Europe - Federation of EuropeanPolyurethane Rigid Foam Associations
www.pu-europe.eu

PlasticsEurope - PlasticsEurope AISBL
wwww.plasticseurope.org

SBA - Sterile Barrier Association Limited
www.sterilebarrier.org

SERMAS - iProcureSecurity - iProcureSecurity – Solutions for Emergency Medical Services
https://project.iprocuresecurity.eu/consortium/

SFPE - Society of Fire Protection Engineers Europe
https://www.sfpe.org/

SME Safety - SME Safety a.i.s.b.l.
www.sme-safety.eu

STRATEGY/SATWAYS Ltd. - Horizon Europe project "Strategy" represented by coordinator Satways Ltd.
https://strategy-project.eu/partners/satways-ltd/

Star-Probio Project - Star-Probio Project - Sustainability Transition Assessment and Research of Bio-based Products
www.star-probio.eu

TEPPFA - The European Plastic Pipes and Fittings Association
www.teppfa.eu

TIC-COUNCIL - Testing, Inspection and Certification Council
www.tic-council.org

TIE - Toy Industries of Europe
www.tietoy.org

TMC Ltd - The Microfibre Consortium
https://www.microfibreconsortium.com/

TN-ITS GO - TN-ITS GO
https://tn-its.eu/tn-its-go

UECBV - European Livestock and Meat Trading Union
www.uecbv.eu

UEPG - European Aggregates Association
www.uepg.eu

UIP - International Union of Wagon Keepers a.i.s.b.l.
www.uiprail.org

UITP - International Association of Public Transport
www.uitp.org

UNIFE - The European Rail Industry
www.unife.org

UPEI - Union of European Petroleum Independents
www.upei.org

VGB - VGB PowerTech
www.vgb.org

VIPA International - Vacuum Insulation Panel Association
vipa-international.com

VTCT - Vocational Training Charitable Trust
www.vtct.org.uk

WBT - World association of manufacturers of bottles and teats
www.thewbt.org

WEI-IEO - European Institute for Wood Preservation
www.wei-ieo.org

WFSGI - World Federation of the Sporting Goods Industry
www.wfsgi.or

WIZE - Wize Alliance

World Rugby - World Rugby Limited
www.worldrugby.org

bSI - BuildingSMART International Ltd
www.buildingsmart.org

ePURE - European Producers Union of Renewable Ethanol
www.epure.org

EUBAC - European Building Automation and Controls Association
https://eubac.org/

ASSOCIATED BODIES

ASD-STAN - The Standardization association of the European Associations of Aerospace Industries
https://www.asd-europe.org/aerospace-and-defence-industries-association-of-europe

EUROPEAN COUNSELLORS

EC - European Commission
www.ec.europa.eu

EFTA - European Free Trade Association
www.efta.int

EUROPEAN INSTITUTIONAL STAKEHOLDERS

EC - JRC - European Commission - Joint Research Centre
ec.europa.eu/jrc

EDA - European Defence Agency
http://www.eda.europa.eu/

ENISA - European Union Agency for Network and Information Security
www.enisa.europa.eu

ERA - European Railway Agency
www.era.europa.eu

FRONTEX - FRONTEX
www.frontex.europa.eu

S2R JU - Shift2Rail Joint Undertaking
https://shift2rail.org/

OTHER PARTNER ORGANISATIONS

BDVA - Big Data Value Association

CIE - International Commission on Illumination
www.cie.co.at

EA - European co-operation for Accreditation
www.european-accreditation.org

ECSO - European cyber security organisation ASBL

ECSS - European Cooperation for Space Standardization
www.ecss.nl

ENTSO-E - European Network of Transmission System Operators for Electricity
www.entsoe.eu

ENTSOG - European Network of Transmission System Operators for Gas
www.entsog.eu

EPO - The European Patent Organisation (EPO)

EURAMET - European Association of National Metrology Institutes
www.euramet.org

EUROCAE - European Organisation for Civil Aviation Equipment
www.eurocae.net

FIB - The International Federation for Structural Concrete
www.fib-international.org

IFAN - International Federation of Standards Users
www.ifan.org

ITU - International Telecommunication Union
www.itu.int

NSO - NATO Standardization Office
nso.nato.int

OIML - International Organization of Legal Metrology
www.oiml.org

UIC - International Union of Railways
www.uic.org

UPU - Universal Postal Union
www.upu.int

ZigBee Alliance - ZigBee Alliance, Inc.
www.zigbee.org

ABOUT CEN

CEN (the European Committee for Standardization) is recognised by the EU and EFTA as the European Standardization Organization responsible for developing standards at European level. These standards set out specifications and procedures for a wide range of materials, processes, products and services.

The members of CEN are the National Standardization Bodies of 34* European countries. European Standards (ENs) and other standardization deliverables adopted by CEN are accepted and recognised in all 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 between experts nominated by business and industry, research institutes, consumer and environmental organizations and other stakeholders. CEN works to promote the international alignment of standards in the framework of the technical cooperation agreement with ISO (International Organization for Standardization).

** number of full members in January 2022*

For more information, please visit: www.cencenelec.eu

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Losfeld Communication
Rue de la Couronne, 76
B-7730 Estaimpuis, Belgium
www.losfeld.be

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CEN-CENELEC Management Centre
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B - 1040 Brussels, Belgium

2021 ANNUAL REPORT

CENELEC

EUROPEAN COMMITTEE
FOR ELECTROTECHNICAL STANDARDIZATION

TABLE OF CONTENTS

CENELEC ADMINISTRATIVE BOARD

The CENELEC Administrative Board (CENELEC/CA) manages and administers CENELEC's business, directing the work and coordinating the actions of all CENELEC bodies with the aim of executing the decisions taken by the General Assembly (AG). The CENELEC/CA also takes all steps that it considers necessary to achieve CENELEC's corporate goals in its dealings with various partners and interlocutors including national, European or international authorities and other organizations.

The CENELEC/CA normally meets three times per year and comprises the CENELEC Officers: the President, the President-Elect, three Vice-Presidents (Finance, Policy and Technical) and up to nine ordinary Board members, all of whom are appointed by the whole CENELEC membership (AG). The Director General of CEN and CENELEC also participate in CA meetings and acts as secretary.

THE PRESIDENT

Mr Wolfgang Niedziella
CENELEC President

THE VICE-PRESIDENTS

Mrs Femke Aarts*
Finance

Mrs Ewa Zielińska
Policy

Mr Frédéric Vaillant
Technical

**In place until April 2022; successor to be elected.*

BOARD MEMBERS

Mr David Bell
BSI, United Kingdom

Mr Ivelin Burov
BDS, Bulgaria

Mr Pambos Kammas
CYS, Cyprus

Mr Karl-Heinz Mayer
OVE, Austria

Mr Enda McDonnell
NSAI, Ireland

Mr Giuseppe Molina
CEI, Italy

Mr Ingars Pilmanis
LVS, Latvia

Mr Anders Richert
SEK, Sweden

Mrs Anna Tanskanen
SESKO, Finland

CENELEC OFFICERS IN 2022

President: Mr Wolfgang Niedziella

A trained engineer, Mr Wolfgang Niedziella has been Head of Digital Safety Centre of Competence at VDE, the German Association for Electrical Electronic & Information Technologies since its establishment in 2019 and Chair of IEC System of Conformity Assessment Schemes for Electrotechnical Equipment and Components (IECEE) since 2016. Mr Niedziella began his career in 1987 at the VDE Testing and Certification Institute GmbH in Offenbach. From 1991 to 2001, he was Manager for standardization projects in the field of electrical components at DKE and served from 2001 to 2003 at Commerzbank AG as a change manager in the transaction banking division. In 2003 he returned to the VDE Testing and Certification Institute as head of the Components, Household, Trade and Industry Department. From 2011 to 2019, he was Managing Director of VDE Testing and Certification Institute and from 2012 to 2015 he managed in parallel the subsidiary VDE Global Services GmbH with its eight Asian companies. He was also the Chair of IECEE/CTL (IECEE Committee of Testing Laboratories) from 2010 to 2015. In June 2020, Mr Niedziella was elected as the next President of CENELEC (2022-2024). His mandate as President started in January 2022.

Vice-President Finance: Mrs Femke Aarts*

Mrs Femke Aarts used to work at NEN. Her expertise lies in making organizations more flexible and finance and operations more serviceable in line with the organizational strategy. Over the course of her career, she held a series of leadership positions across the public and private sectors. She was elected as CENELEC Vice-President Finance for a mandate starting in January 2022 and held the position until April 2022.

** in place until April 2022; successor to be elected.*

CENELEC OFFICERS IN 2022

Vice-President Policy: Mrs Ewa Zielińska

Mrs Ewa Zielińska is CENELEC's Vice-President Policy since January 2022. She is the Acting President of PKN, the Polish Committee for Standardization, where she has also served at Vice-President in charge of external relations and sales since 2019. Before that, she built her career in the organisation's External Relations Department, where she started working in 2000: she was appointed as Head of Unit responsible for foreign issues in the External Relations Department from 2010 to 2012, and since 2012 she was the department's Director. In doing this, she also acquired extensive experience in European and International standardization, serving in different positions in IEC and CENELEC's Boards and technical bodies. Mrs Zielińska has a Master's degree in Sociology from Warsaw University and a Postgraduate degree on European Affairs from the same university.

Vice-President Technical: Mr Frédéric Vaillant

Mr Frédéric Vaillant is Vice President for Energy Management Standardization at Schneider Electric. There, he manages a standardization team involved to various degrees in IEC, CENELEC and several national standardization bodies. Over the course of his career, Mr Vaillant has built a strong experience in the management of engineering, technical, upstream marketing and innovation teams first at Saint Gobain, Merlin Gering and then at Schneider Electric. He was also a member of the board of the Physics Department at the Joseph Fourier University in Grenoble and chaired the strategic orientation council of the Carnot Institute "Energy of the Future", a lab association gathering 1400 public researchers. To his managerial career Mr Vaillant adds his multiannual activity as a part-time teacher at the continuing education centre for adults at the Grenoble electronic engineering school and at the Grenoble university. Mr Vaillant holds a degree from the Ecole Polytechnique in Paris and a PhD in Physics from the Grenoble University. Mr Vaillant was elected CENELEC's Vice-President Technical for a mandate beginning in January 2021.

BOARD MEMBERS 2022

Mr David Bell - BSI, United Kingdom

Mr David Bell has been the Director of Standards Policy at the British Standards Institution (BSI) since 2015. An economist by training, Mr Bell has been at BSI for over 20 years, overseeing a number of European and International standards issues and took over BSI's policy team in 2009. An advisor on technical assistance projects around the world, he has been a member of the Council of ISO since 2017. At European level, Mr Bell has been a member of CENELEC's Policy Working Group and CEN and CENELEC's finance committees since 2012 and chaired the CEN/CENELEC SME Working Group Task Force on Communications. Furthermore, Mr Bell was a member of CEN's Administrative Board from 2006 to 2013 and its Policy Committee from 2006 to 2010. Mr Bell is a member of the UK's Electrotechnical Standardization Strategic Advisory Council and was elected as a CENELEC Board Member in June 2018, taking up his role in January 2019.

Mr Ivelin Burov - BDS, Bulgaria

Mr Ivelin Burov has an extensive experience in standardization. An engineer by training, with 40 years of professional experience, he has worked for 23 years at BDS, the Bulgarian Standardization Body, where he has been Chairman of its Governing Board since 2006. Previous to that, he was BDS' President from 2002 to 2006. He was Vice-President of the Committee for Standardization and Metrology (CSM) and State Agency for Standardization and Metrology (SASM), the Bulgarian standardization organisations, between 1997 and 2001, and President of SASM from 2001 to 2002. He also served for 6 years as member of the National Accreditation Council to the Bulgarian Accreditation Body – Executive Agency "Bulgarian Accreditation Service (BAS)". Mr Burov is also Chairman of TÜV Rheinland Bulgaria's Committees of impartiality to the Product Certification Body and Management Systems Certification Body. He was elected as CENELEC Board Member for a two-year mandate beginning in January 2021.

BOARD MEMBERS 2022

Mr Pambos Kammas - CYS, Cyprus

Mr Pambos Kammas has been the Director of Standardization for the Cyprus Organisation for Standardization (CYS) since 2006. He is also the Director of CYS' Vocational Training Centre. Before this, from 2004 to 2006 Mr Kammas was Director for Certification at the Cyprus Certification Company, where he started working after more than a decade at OEB, Cyprus' Employers and Industrialists Federation. At the European level, he has covered a series of roles: among others, Mr Kammas was an elected member of CEN's Administrative Council (CA) for 2 consequent 2-year terms (2014-2017), and Chair of CEN's Certification Board from 2015 to 2017 and member of CENELEC's CA on 2011-12. Mr Kammas holds a BBA in Management from Cyprus College, in Nicosia, and an MBA in Marketing from the University of New Haven in the USA. He was elected for a first 2-year term as CENELEC's Board Member in June 2018 and has since then been re-elected.

Mr Karl-Heinz Mayer - OVE, Austria

Mr Karl-Heinz Mayer is Director Innovation, Codes and Standards & Program Management in Eaton's Industries EMEA Power Distribution Division (PDD) and member of the extended Management Board since 2009. There, he manages the standardization team of PDD, which contributes to various national and international technical standardization committees. Over the course of his career, Mr Mayer has built a strong experience in the management of Research & Development, Innovation, Program Management, Quality and Standardization teams starting at Felten & Guilleaume AG, continuing at Moeller Gebäudeautomation GmbH and followed then by Eaton Industries (Austria) GmbH. He is board member of the private foundation ESF. Mr Mayer holds a degree in industrial engineering and is certified as manager for quality. He was elected as CENELEC Board Member for a two-year mandate beginning in January 2021.

BOARD MEMBERS 2022

Mr Enda McDonnell - NSAI, Ireland

Mr Enda McDonnell is Head of Standards at NSAI, the National Standards Authority of Ireland. From 2012 to 2015, Mr Kelly helped build up the Standardization Services arm of QCC, the Abu Dhabi Quality and Conformity Council. Prior to 2000, Enda was involved in standardization as a technical expert, chairman of a national mirror committee, secretary of a national trade association and delegate in an international working group. This was mainly on the Electro-Technical side, as he previously worked in the electrical cable manufacturing industry. He has two Master's Degrees (MBA – Masters in Business Administration and MIE – Masters in Industrial Engineering) and an Engineering degree. Enda McDonnell was a Board Member of CEN from 2018 to 2020 and has now been elected to serve as a Board Member for CENELEC for a mandate starting in January 2022.

Mr Giuseppe Molina - CEI, Italy

Mr Giuseppe Molina is the Managing Director of CEI, Italy's National Electrotechnical Committee, since 2020. Before that, he was at ENEL Group, Italy's leading electricity and gas provider, where he held different management positions in his 25-year career: among his different roles, he was responsible for a series of power generation plants in Italy, CEO at ENEL Produzione (2014-2017), Head of the Brindisi Project (2017-2018) and Head of Components and Materials Quality. He has also extensive experience in business associations, having been appointed to a variety of Boards of Directors or Councils. Mr Molina holds a Master's degree in Electrotechnical Engineering from Politecnico di Torino. He was elected as CENELEC Board Member for a two-year mandate starting in January 2022.

BOARD MEMBERS 2022

Mr Ingars Pilmanis - LVS, Latvia

Mr Ingars Pilmanis is the Head of Latvian Standard (LVS). Mr Ingars Pilmanis holds a Master's degree in Business Administration and Information Systems from the University of Latvia, and has given lectures for a number of years at the Riga Technical University on quality infrastructure and assurance. Before moving to LVS, he held numerous responsibilities in the Ministry of Economics of the Republic of Latvia, where – among others – as Director of the Department he was in charge of policy in the field of standardization, accreditation metrology as well as construction worked with approximation of national legislation with the EU in field of free movement of goods. He was also the President of the Latvian Quality Association. He was elected as CENELEC Board Member for a two-year mandate beginning in January 2021.

Mr Anders Richert – SEK, Sweden

Mr Anders Richert is Technical Director and deputy General Director at the Swedish National Electrical Safety Board (Elsäkerhetsverket). He is also vice chairman of the board in SEK Svensk Elstandard. After graduating from Chalmers University of Technology in Gothenburg, Mr Richert held numerous positions in Vattenfall. In the early 1990s, he was seconded to Unipede (EURELECTRIC) in Paris, dealing with electricity supply and standardization issues on a European level in cooperation with CENELEC. Mr Richert was a Board Member of SEK Svensk Elstandard, representing the electricity industry, before joining the Safety Board and is now a member of the SEK Electrotechnical Committee and TK8. Mr Richert was a member of the CENELEC Administrative Board from 2017 to 2000 and was re-elected in the same role for a two-year mandate starting in January 2022.

BOARD MEMBERS 2022

Mrs Anna Tanskanen – SESKO, Finland

Mrs Anna Tanskanen has been the Managing Director of SESKO, Finland's National Electrotechnical Committee, since January 2021. Before that, she made a career in the electricity and electrotechnical private sector for Eltel Networks Corporation (2004-2010), Fortum Distribution Ltd (2010-2014) and Caruna Ltd (2014-2020), first as business development manager and then as Automation Manager. In this position, she also participated in standardization work at the national and international level, as a participant to the IEC's Young Professionals-programme and as a member of SESKO SK 8 committee. Mrs Tanskanen holds a PhD in Electrical Engineering from the Lappeenranta University of Technology, where she obtained also her Master's degree. Mrs Tanskanen was elected as a CENELEC Board Member for a two-year mandate starting in January 2022.

CENELEC ADMINISTRATIVE BOARD IN 2021

PRESIDENTS AND VICE-PRESIDENTS

President: Mr Dany Sturtewagen
President-Elect: Mr Wolfgang Niedziella
Vice-President Finance: Mr Ivano Visintainer
Vice-President Policy: Mrs Geraldine Larkin
Vice-President Technical: Mr Frédéric Vaillant

BOARD MEMBERS 2020

Mr David Bell (BSI, United Kingdom)
Mr Ivelin Burov (BDS, Bulgaria)
Mrs Iuliana Chilea (ASRO, Romania)
Mr Pambos Kammas (CYS, Cyprus)
Mr Wojciech Konecki (APPLIA Polska, Poland)
Mrs Kristin Helen Lind (Energy Norway AS, Norway)
Mr Karl-Heinz Mayer (OVE, Austria)
Mr Ingars Pilmanis (LVS, Latvia)

CENELEC AT A GLANCE

	European Standards	Workshop Agreements	Technical Specifications	Technical Reports	European Standards identical to International Standards (IEC)
IN 2021	506	3	13	41	399
Deliverables published in 2021	567				
OVERALL ON 31 DECEMBER 2021	7 713	15	94	180	4 865
Portfolio at the end of 2021	8 055				

www.cencenelec.eu

CENELEC COMMUNITY

34
National Standardization Organisations
(34 countries)

11
Companion Standardization Bodies

3
Affiliates

66
European Partners

2
Counsellors *(EC + EFTA)*

12
Partner Organisations

28
Liaison Organisations

5
European Institutional Stakeholders

19
Other Organisations

69
Technical Committees
(TCs)

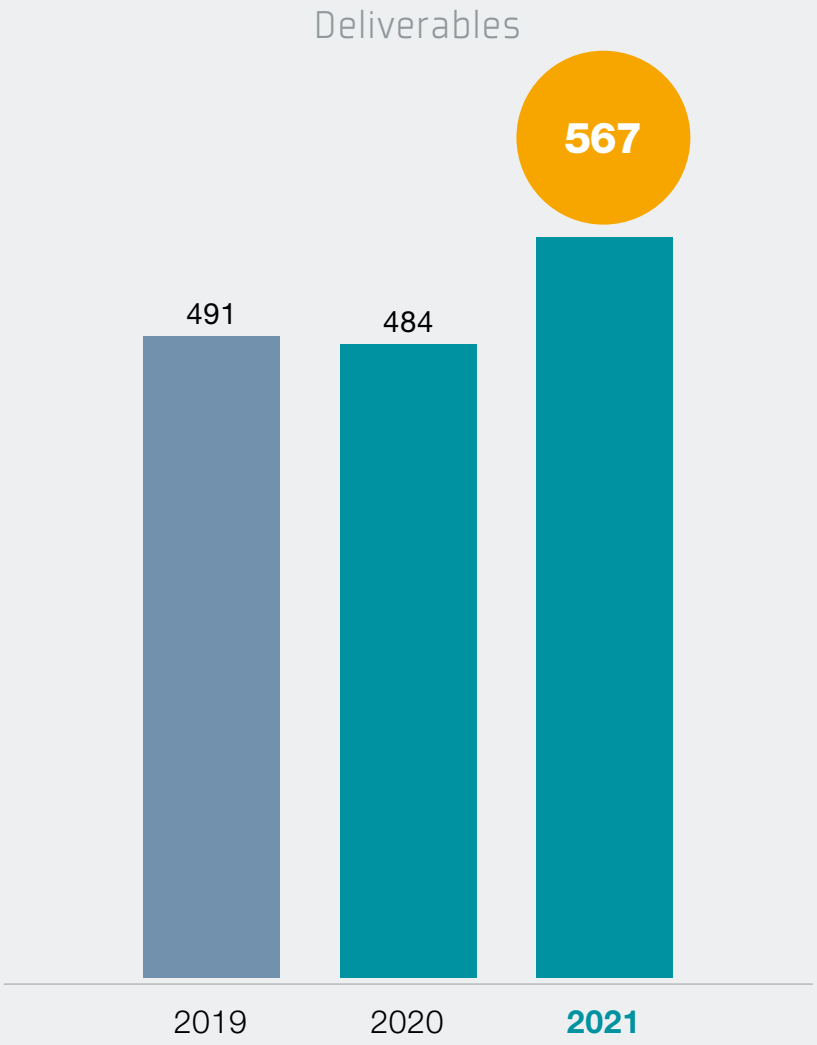
22
Joint Technical Committees
(CEN-CENELEC and CEN-CENELEC-ETSI)

321
Working Groups
(of TCs & SCs)

CENELEC DEVELOPMENTS IN 2021

www.cencenelec.eu

CENELEC IN 2021

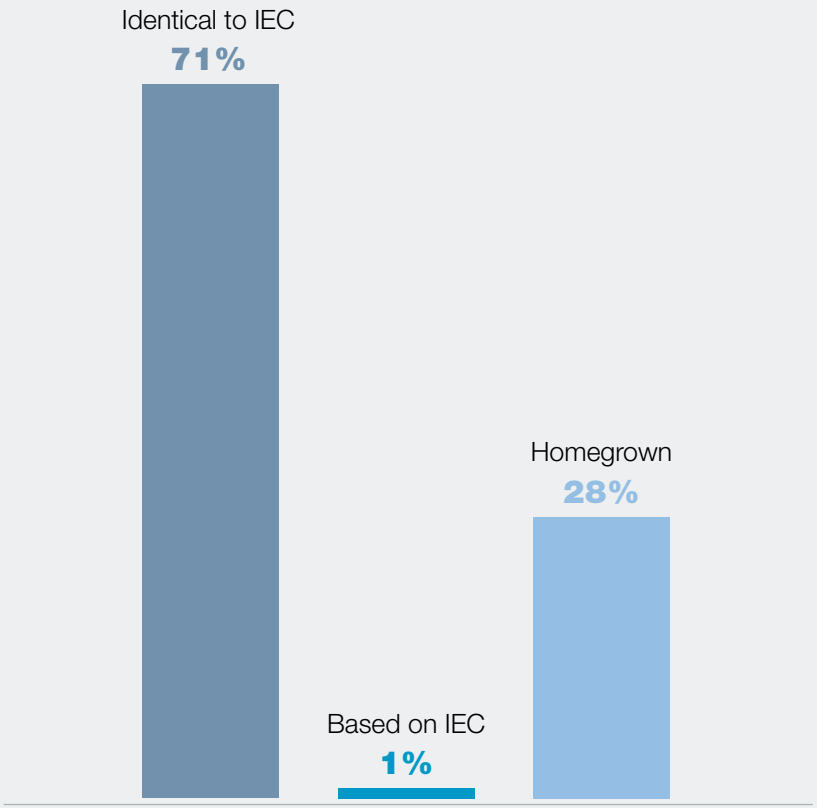


STANDARDS	2019	2020	2021
European Standards (ENs)*	456	452	503
harmonisation Documents (HDs)	7	2	3
TOTAL	**463**	**454**	**506**

DELIVERABLES	2019	2020	2021
Standards (ENs + HDs)*	463	454	506
CENELEC Technical Reports (TRs)	20	8	7
CENELEC Technical Specifications (TSs)	4	9	13
CEN-CENELEC Technical Specifications (TSs)	1	0	0
CENELEC Workshop Agreements (CWAs)	2	2	3
CENELEC Guides (CGs)	0	1	1
CEN-CENELEC Guides	1	3	3
TOTAL	**491**	**484**	**567**

Excluding Corrigenda

CENELEC Deliverables published in 2021
Relation to IEC



Relations between European Standards and other deliverables published by CENELEC and documents published by the International Electrotechnical Commission (IEC)

Deliverables published in 2020*	Number	Percentage
Identical to IEC	399	71%
Based on IEC	5	1%
Homegrown	159	28%
TOTAL	**563**	**100%**

**Excluding Corrigenda and Guides*

CENELEC TECHNICAL BODY MEETINGS	2019	2020	2021
Technical Meetings not in Brussels	43	8	5
Technical Meetings in Brussels	39	6	5
Technical Meetings (web meeting/conference):	1	58	73
TOTAL	**83**	**72**	**83**

CENELEC OVERALL AT THE END OF 2021

TECHNICAL BODIES	2019	2020	2021
Technical Committees/Subcommittees	70	69	69
TS/SC Working Groups	300	314	321
BT Task Forces/BT Working Groups	15	15	15
Workshops	3	3	3
TOTAL	**388**	**401**	**408**

JOINT TECHNICAL BODIES*	2019	2020	2021
TOTAL	**65**	**66**	**77**

**CEN-CENELEC and CEN-CENELEC-ETSI*

STANDARDS	2019	2020	2021
European Standards (EN)*	7 072	7 278	7 513
Harmonisation Documents (HD)	233	215	200
TOTAL number of active standards	**7 305**	**7 493**	**7 713**

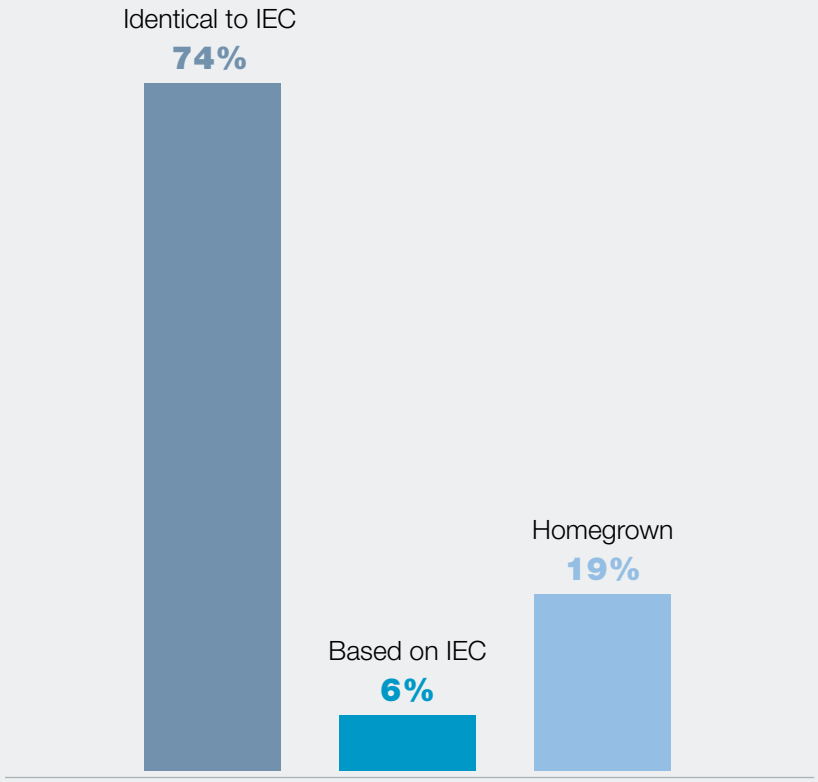
** These figures include amendments and IS*

PORTFOLIO	2019	2020	2021
Standards (ENs + HDs)*	5 985	6 105	6 253
Amendments/Interpretation Sheets (ISs)	1 320	1 388	1 460
CENELEC Technical Reports (TR)	124	129	130
CEN-CENELEC Technical Reports	3	3	31
CEN-CENELEC-ETSI Technical Reports	4	4	3
CENELEC-ETSI Technical Reports	1	1	1
CENELEC Technical Specifications (TRs)	91	91	94
CENELEC Workshop Agreements (CWAs)	8	10	15
CENELEC Guides	14	14	14
CEN-CENELEC Guides	33	34	35
Pre-Standards (CWAs)	3	3	3
Reports	2	1	1
TOTAL number of active deliverables	**7 590**	**7 792**	**8 055**
Number of Harmonised deliverables	1 258	1 295	1 295
Number of Harmonised deliverables as % of total	16,57%	16,61%	16,07%

**Excluding Corrigenda*

INTERNATIONAL RELATIONS

CENELEC portfolio – relation to IEC – at the end of 2021



Deliverables*	Number	Percentage
Identical to IEC	4 865	74%
Based on IEC	411	6%
Homegrown	1 268	20%
TOTAL	**6 544**	**100%**

**Standards only*

RELATION TO EUROPEAN UNION LEGISLATION

Total number of harmonized standards and other deliverables cited or intended for citation in the Official Journal of the European Union (OJEU) (including Amendments)

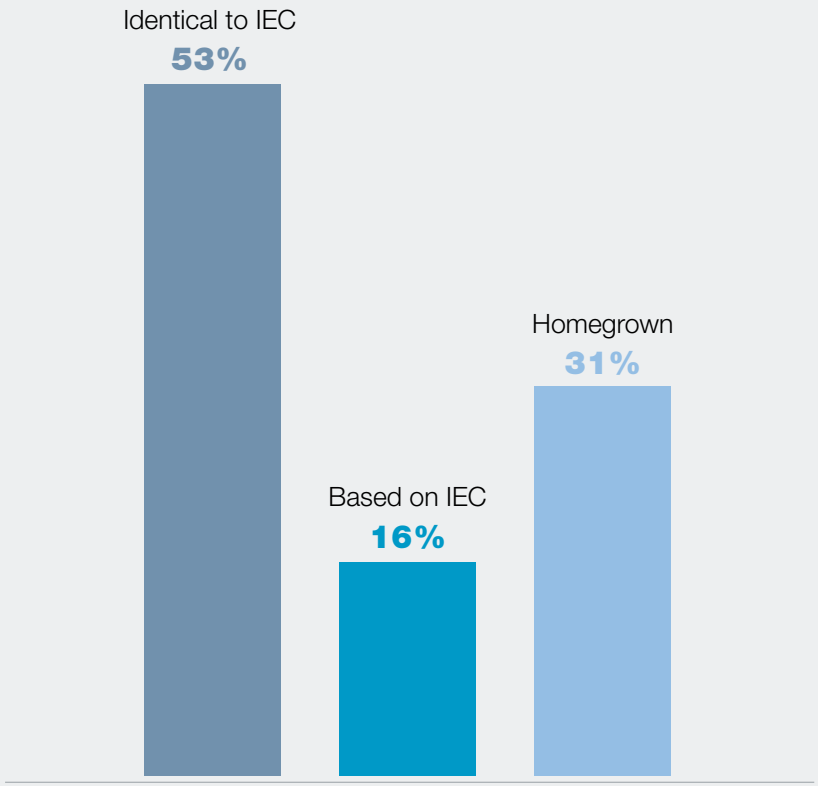
SECTORS	DIRECTIVE/REGULATION REFERENCE	END 2021
Active implantable medical devices	90/385/EEC	11
Ecodesign requirements for domestic ovens, hobs and range hoods	66/2014	11
Ecodesign requirements for electric motors	640/2009	2
Ecodesign requirements for household dishwashers	1016/2010	1
Ecodesign requirements for household dishwashers	2019/2022	2
Ecodesign requirements for household refrigerating appliances	643/2009	1
Ecodesign requirements for household tumble driers	932/2012	1
Ecodesign requirements for household washing machines and household washer-dryers	2019/2023	4
Ecodesign requirements for local space heaters	2015/1188	6
Ecodesign requirements for no-load condition electric power consumption and average active efficiency of external power supplies	278/2009	2
Ecodesign requirements for space heaters	813/2013	2
Ecodesign requirements for standby and off mode electric power consumption of electrical and electronic household and office equipment	1275/2008	8
Ecodesign requirements for televisions	642/2009	2
Ecodesign requirements for vacuum cleaners	666/2013	6
Ecodesign requirements for water heaters and hot water storage tanks	814/2013	8
Electrical equipment designed for use within certain voltage limits	2014/35/EU	959
Electromagnetic compatibility	2014/30/EU	148
Energy labelling of domestic ovens and range hoods	65/2014	9
Energy labelling of household combined washer-driers	96/60/EC	1
Energy labelling of household dishwashers	1059/2010	1
Energy labelling of household refrigerating appliances	1060/2010	3
Energy labelling of household tumble driers	392/2012	2
Energy labelling of household dishwashers	2019/2017	2

RELATION TO EUROPEAN UNION LEGISLATION (continued)

SECTORS	DIRECTIVE/REGULATION REFERENCE	END 2021
Energy labelling of household washing machines and household washer-dryers	2019/2014	4
Energy labelling of space heaters	811/2013	2
Energy labelling of water heaters	812/2013	8
Equipment and protective systems intended for use in potentially explosive atmospheres	2014/34/EU	33
Harmonised conditions for the marketing of construction products	305/2011	2
In vitro diagnostic medical devices	98/79/EC	2
In vitro diagnostic medical devices	2017/746	4
Machinery	2006/42/EC	162
Measuring instruments	2014/32/EU	3
Medical devices	93/42/EEC	48
Medical devices	2017/745	6
Non-automatic weighing instruments	2014/31/EU	1
Personal protective equipment	2016/425	2
Power transformation (small, medium, large)	548/2014	3
Radio equipment	2014/53/EU	5
Railways	2008/57/EC	49
Recreational craft and personal watercraft	2013/53/EU	1
Requirements for accreditation and market surveillance relating to the marketing of products	765/2008	15
Restriction of hazardous substances	2011/65/EU	2
Safety of toys	2009/48/EC	6
	TOTAL	1 550

PORTFOLIO OF HARMONIZED DELIVERABLES
INTERNATIONAL RELATIONS AT THE END OF 2021

At the end of 2021, the CENELEC catalogue counted 8 055 deliverables of which 1 550 (19,2%) were in support of EU legislation.
Among this total figure, 957 (739+218) were identical or based on IEC.



Deliverables*	Number	Percentage
Identical to IEC	739	53%
Based on IEC	218	16%
Homegrown	426	31%
TOTAL	**1 404**	**100%**

**Excluding Corrigenda and Guides*

ANNUAL ACCOUNTS

ASSETS (€ x 1000)*	2019	2020	2021
Fixed Assets	420	526	725
Current Assets	1 137	1 863	1 084
Liquid Assets	3 184	3 378	2 452
Prepaid Expenses and accrued income	71	103	82
TOTAL	**4 812**	**5 870**	**4 343**

LIABILITIES (€ x 1000)*	2019	2020	2021
Reserves	2 515	2 500	2 395
Provisions for liabilities and charges	363	321	214
Payable	1 421	1 942	1 291
Accrued expenses & deferred income	513	1 107	443
TOTAL	**4 812**	**5 870**	**4 343**

EXPENDITURE (€ x 1000)*	2019	2020	2021
Staff costs	2 670	2 887	2 966
Other operating costs	1 238	1 000	914
Contractual expenses	634	120	781
Digital transformation costs	10	42	107
Digital transformation / Use of provision	-10	-42	-107
Office move project costs	91	45	37
Office move project / Use of provision	-32	-	-
TOTAL	**4 601**	**4 052**	**4 698**

INCOME (€ x 1000)*	2019	2020	2021
Contributions	3 206	3 268	3 247
Interest	1	-	-
Contractual income	1 304	727	1 343
Miscellaneous	31	12	3
Loss of the year / Use of reserves	59	45	37
Loss of the year	-	-	68
TOTAL	**4 601**	**4 052**	**4 698**

FINANCING OF THE CEN-CENELEC MANAGEMENT CENTRE (CENELEC Part)	2019	2020	2021
Membership fees	82%	84%	85%
EC/EFTA support to standardization	17%	16%	15%
Other support	1%	0%	0%
TOTAL	**100%**	**100%**	**100%**

** Figures are given in thousands of euro*

THE CENELEC COMMUNITY

MEMBERS

Austria

OVE - Austrian Electrotechnical Association
www.ove.at

Belgium

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

Bulgaria

BDS - Bulgarian Institute for Standardization
www.bds-bg.org

Croatia

HZN - Croatian Standards Institute
www.hzn.hr

Cyprus

CYS - Cyprus Organization for Standardisation
www.cys.org.cy

Czech Republic

UNMZ - Czech Office for Standards, Metrology and Testing
www.unmz.cz

Denmark

DS - Dansk Standard
www.ds.dk

Estonia

EVS - Non-profit Association Estonian Centre for Standardisation and Accreditation
www.evs.ee

Finland

SESKO - Finnish Electrotechnical Standards Association
www.sesko.fi

France

AFNOR-CEF - AFNOR-Comité Electronique Français
www.afnor.org

Germany

DKE - German Commission for Electrical, Electronic and Information Technologies of DIN and VDE
www.dke.de

www.cencenelec.eu

Greece

NQIS/ELOT - National Quality Infrastructure System
www.elot.gr

Hungary

MSZT - Hungarian Standards Institution
www.mszt.hu

Iceland

IST - Icelandic Standards
www.stadlar.is

Ireland

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

Italy

CEI - Comitato Elettrotecnico Italiano
www.ceinorme.it

Latvia

LVS - Latvian Standard Ltd.
www.lvs.lv

Lithuania

LST - Lithuanian Standards Board
www.lsd.lt

Luxembourg

ILNAS - Organisme Luxembourgeois de Normalisation
www.portail-qualite.lu

Malta

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

Netherlands

NEC - Nederlands Electrotechnisch Comité
www.nen.nl

Norway

NEK - Norsk Elektroteknisk Komite
www.nek.no

Poland

PKN - Polish Committee for Standardization
www.pkn.pl

Portugal

IPQ - Instituto Português da Qualidade
www1.ipq.pt/PT/Pages/Homepage.aspx

Republic of North Macedonia

ISRSM - Standardization Institute of the Republic of North Macedonia
isrsm.gov.mk/en/

www.cencenelec.eu

Romania

ASRO - Romanian Standards Association
www.asro.ro

Serbia

ISS - Institute for Standardization of Serbia
www.iss.rs

Slovakia

UNMS SR - Slovak Office of Standards Metrology and Testing
www.unms.sk

Slovenia

SIST - Slovenian Institute for Standardization
www.sist.si

Spain

UNE - Asociación Española de Normalización
www.une.org

Sweden

SEK - Svensk Elstandard
www.elstandard.se

Switzerland

Electrosuisse - Association for Electrical Engineering, Power and Information Technologies
www.electrosuisse.ch

Turkey

TSE - Turkish Standards Institution
www.tse.org.tr

United Kingdom

BSI - British Standards Institution
www.bsigroup.com

AFFILIATES

Albania

DPS - General Directorate of Standardization-Albania
www.dps.gov.al

Bosnia and Herzegovina

ISBIH - Institute for Standardisation of Bosnia and Herzegovina (ISBIH)
www.isbih.gov.ba

Montenegro

ISME - Institute for Standardization of Montenegro
www.isme.me

COMPANION STANDARDIZATION BODIES

Belarus

BELST - State Committee for Standardization of the Republic of Belarus
www.gosstandart.gov.by

NEW in 2021 Cote D'Ivoire

CODINORM - Côte d'Ivoire Normalisation
www.codinorm.ci/

Egypt

IEC NC of Egypt - Ministry of Electricity & Energy
www.moee.gov.eg

Georgia

GEOSTM - Georgian National Agency for Standards and Metrology
www.geostm.ge

Israel

SII - Standards Institution of Israel
www.sii.org.il

Jordan

JSMO - Jordan Standards and Metrology Organization
www.jsmo.gov.jo

Kazakhstan

KAZMEMST - Committee for Standardization, Metrology and Certification
https://memst.kz/en/

Moldova, Republic of

ISM - Institute for Standardization of Moldova
www.standard.md

Morocco

COMELEC - Moroccan Committee for Electrotechnical Standardization
www.imanor.gov.ma

Tunisia

INNORPI - National Institute for Standardization and Industrial Property (INNORPI)
www.innorpi.tn

Ukraine

DSTU - Ukrainian scientific-research and training center of issues of standardization, certification and quality
www.uas.org.ua/ua/

EUROPEAN PARTNERS

PARTNER ORGANISATIONS

ANEC - The European Association for the Co-ordination of Consumer Representation in Standardisation
www.anec.eu

APPLiA - Home Appliance Europe
www.applia-europe.eu

CAPIEL - Coordinating Committee for the Associations of Manufacturers of Switchgear and Controlgear
www.capiel.eu

CECAPI - European Committee of Electrical Installation Equipment Manufacturers
www.cecapi.org

Cable Europe - European Cable Communications Association
www.cable-europe.eu

E.DSO - The European Distribution System Operators
www.edsoforsmartgrids.eu

ECOS - European Environmental Citizens Organisation for Standardisation
www.ecostandard.org

ETUI - European Trade Union Institute
www.etui.org

EURELECTRIC - Union of the Electricity Industry
www.eurelectric.org

EUROPACABLE - European Confederation of Associations of Manufacturers of Insulated Wires and Cables
www.europacable.eu

KNX - KNX Association
www.knx.org

ORGALIM - Europe's Technology Industries
www.orgalim.eu

SBS - Small Business Standards
www.sbs-sme.eu

T&D Europe - European Association of the Electricity Transmission and Distribution Equipment and Services Industry
www.tdeurope.eu

LIAISON ORGANISATIONS

CEMEP - the European Committee of Manufacturers of Electrical Machines and Power Electronics
http://cemep.eu

CoESS - Confederation of European Security Services
www.coess.eu

DERlab - European Distributed Energy Resources Laboratories e.V.
www.der-lab.net

DLMS UA - DLMS User Association
www.dlms.com

DigitalEurope - The Voice of the European Digital Technology Industry
www.digitaleurope.org

EERA - European Electronics Recyclers Association
www.eera-recyclers.com

EFCO&HPA - European Federation of Campingsite Organizations & Holiday Park Associations
www.efcohpa.eu

EHI - European Heating Industry
www.ehi.eu

EPEE - European Partnership for Energy and the Environment
www.epeeglobal.org

EPIA - EPIA: SolarPower Europe AISBL
www.epia.org

EPSMA - European Power Supply Manufacturers' Association EEIG
www.epsma.org

ERP - European Recycling Platform
erp-recycling.org

ESNA - Energy Services Network Association
www.esna.org

ETICS - European testing inspection and certification system
www.etics.org

EUCOLIGHT - European Compliance Organisation for Lamps
www.eucolight.org

EUGINE - European Engine Power Plant
www.eugine.eu

EURALARM - Association of the European Fire and Security Industry
www.euralarm.org

EUROBAT - Association of European Automotive and Industrial Battery Manufacturers
www.eurobat.org

EUROMETREC - The European Metal Trade and Recycling Federation
www.eurometrec.org

EUturbines - The European gas and steam turbine manufacturers
www.euturbines.eu

EVA - European Vending Association
www.vending-europe.eu

IARU - International Amateur Radio Union (IARU)
www.iaru.org

Meters and More - Meters and More
www.metersandmore.com

UITP - International Association of Public Transport
www.uitp.org

UNIFE - The European Rail Industry
www.unife.org

WEEE - Forum - European association of electrical and electronic waste take back systems
www.weee-forum.org

EUROPEAN COUNSELLORS

EC - European Commission
www.ec.europa.eu

EFTA - European Free Trade Association
www.efta.int

EUROPEAN INSTITUTIONAL STAKEHOLDERS

EC - JRC - European Commission - Joint Research Centre
ec.europa.eu/jrc

ENISA - European Union Agency for Network and Information Security
www.enisa.europa.eu

ERA - European Railway Agency
www.era.europa.eu

FRONTEX - European Border and Coast Guard Agency
www.frontex.europa.eu

OTHER ORGANISATIONS

CEER - The Council of European energy regulators
www.ceer.eu

CEPT-ECC - The European Conference of Postal and Telecommunications Administrations - Electronic Communications Committee
www.cept.org/ecc

EA - European co-operation for Accreditation
www.european-accreditation.org

ECSO - European cyber security organisation ASBL
www.ecs-org.eu/

ECSS - European Cooperation for Space Standardization
www.ecss.nl

ENTSO-E - European Network of Transmission System Operators for Electricity
www.entsoe.eu

ENTSOG - European Network of Transmission System Operators for Gas
www.entsog.eu

EPO - The European Patent Organisation (EPO)
www.epo.org

EURAMET - European Association of National Metrology Institutes
www.euramet.org

EUROCAE - European Organisation for Civil Aviation Equipment
www.eurocae.net

FISUEL - International Federation for the Safety of Electricity Users
www.fisuel.org

IFAN - International Federation of Standards Users
www.ifan.org

ITU - International Telecommunication Union
www.itu.int

NSO - NATO Standardization Office
nso.nato.int

OIML - International Organization of Legal Metrology
www.oiml.org

UIC - International Union of Railways
www.uic.org

USB IF - Universal Serial Bus Implementers Forum
www.usb.org

ZigBee Alliance - ZigBee Alliance, Inc.
www.zigbee.org

ABOUT CENELEC

CENELEC (European Committee for Electrotechnical Standardization) is recognised by the EU and EFTA as one of the official European Standardization Organisations responsible for developing standards at European level. These standards set out specifications and procedures for a wide range of materials, processes, products and services.

The members of CENELEC are the National Electrotechnical Committees of 34* European countries. European Standards (ENs) and other standardization deliverables adopted by CENELEC are accepted and recognised in all 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 between experts nominated by business and industry, research institutes, consumer and environmental organizations and other stakeholders. CENELEC works to promote the international alignment of standards in the framework of the technical cooperation agreement with IEC (International Electrotechnical Commission).

** number of full members in January 2022*

For more information, please visit: www.cencenelec.eu

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