

CEN Identification number in the EC register: 63623305522-13
CENELEC Identification number in the EC register: 58258552517-56

CEN and CENELEC Joint Response to the European Commission Standardization Strategy Roadmap 6 August 2021

What does success of the European Standardization Strategy look like by 2025?

We would like to thank the European Commission for organizing this consultation on the Roadmap of the “European Strategy for Standardization”.

We welcome the consultation as a critical development in the joint efforts to build a robust, resilient, and competitive green economy for Europe, which encourages the alignment of strategies for and use of standardization as a key asset towards achieving these ambitions.

We would like to take this opportunity to build on the constructive engagement with the EC. A particular recent example is the EC - CEN-CENELEC joint High-Level taskforce created to address and resolve the bottlenecks currently challenging the European Standardization System (ESS).

Our aim is that these inputs align our objectives for the benefit of the European economy and European Standardization System, as well as address the three key questions in the roadmap:

- Whether the current European Standardisation System is fit for purpose to support European strategic interests?
- How the EU can leverage and promote global leadership in standards setting?
- Whether changes in governance and working methods are required to improve the performance of the European standardisation system?

CEN and CENELEC appreciate this opportunity to align our views together with the EC to ensure that European standardization builds trust through expertise and consensus of all stakeholders and to enable European leadership in key areas.

The European standardization model is unique and offers many best practices to enable Europe to be a key player in global markets. The CEN and CENELEC national members offer additional best practices, which can enrich the proposals contained in this document.

We propose to focus our joint efforts towards key areas identified in the following five chapters:

- 1) Modernising and strengthening the European Standardization System
- 2) International leadership in standards development
- 3) Anticipation of standardization needs
- 4) Education/skills/expertise
- 5) Services

For us, success in 2025 would be:

To make the best use of the European Standardization System for the well-being of European citizens and the competitiveness and resilience of European economy.

Chapter 1: Modernising and Strengthening the European Standardization System

Strategy 2030, the Twin Transitions and the support of the 14 Industrial Ecosystems

Acknowledging the growing strategic and geopolitical importance of market driven and voluntary standards, fast-emerging technologies, and impact of the data economy on traditional sectors requires that European businesses are working with the same tools and 'language'. Europe must recognise and fully assume its role as a standards-maker as it has been for decades (not a standards-taker) while ensuring that European leadership is enhanced in challenging sectors of the emerging digital economy where international competition is fierce.

European standards, jointly developed and adopted at international level, bring a competitive advantage for European businesses, large and small alike, as well as demonstrating European leadership in action in international standardizing bodies such as the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC).

The European Union's initiatives for the Twin Transitions (green and digital), come at a time of recovery from a global crisis. We fully anticipate that standards will continue to play a pivotal role in supporting the safety of citizens, enable digital transformation, support the development of a circular economy while fostering an environment that encourages innovation. Standards will continue to provide a real and indispensable 'oil' which enables a well-functioning EU single market.

Many of the contributions from CEN's and CENELEC's side are derived from our strategic plans for the next decade ([Strategy 2030](#).) As we look forward to the future of the European Standardization System, standards are a crucial enabler that not only fit strategically with the initiatives of the green and digital transitions, but can pragmatically be aligned with important goals, including:

1. The recognition and use by the EU and EFTA of the strategic value of the European Standardization System.
2. CEN and CENELEC's customers and stakeholders benefit from state-of-the-art technology solutions.
3. An increase in 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 CEN and CENELEC's leadership and ambition at the international level.

We would like to encourage and work together with the EC to develop concepts of transparency and communication in the EU's future policy making, with the aim of using bespoke mechanisms as best practice to build on the expertise of *technical* experts and the development of consensus between all stakeholders.

Examples include the Council President's Working Group on Standardization from last autumn, a strategic use of the Committee on Standards, joint technical committees at European level that embody their international counterparts (e.g., CEN-CENELEC Joint Technical Committee 21 'Artificial Intelligence'). Such mechanisms should then be used to make concrete contributions to quite specific items of policy currently shaping the direction of those transitions, such as the Green Deal, the Data Markets Act, the Industrial Strategy, the Annual Union Work Programme, the ICT Rolling Plan and the Cybersecurity Rolling Plan.

We are committed to revitalizing our public-private partnership with the European Commission¹, that enables voluntary standards to act as integral instruments for strategic EU policy objectives, especially given the current urgency of the recovery and need for further resilience. Many actors are involved in standardization, and the system's approach ensures the achievement of consensus. This means that standards are not imposed but developed in a bottom-up and consensual manner that requires active participation.

Next generation standards and how to prepare

Thriving in the digital era² requires the development of standards for the digital transition and the overall transformation of our own standards' development processes. The latter requires significant planning, investment and cooperation.

We have an opportunity to be bold in how to lead the way by bringing the standardization community firmly into the 21st century, first embarking on a comprehensive digital transformation of our processes, products, and services. Together, we can aim at improving access to information with machine-interpretable content. This information is crucial, as it will require conscious efforts from both the ESOs (CEN, CENELEC and ETSI) and the European Commission to prepare. European digital standardization needs to be addressed within the wider digital transition, with regards to:

- Harmonized understanding and implementation of machine readable and interpretable content across different industrial sectors.
- Legal protection of solutions to avoid misuse of standard contents.
- Differences in sectoral needs vs common generic model.
- Alignment at international level (ISO and IEC).
- Optimal infrastructure and tool set definition.

These efforts can lead to more integrated processes. CEN and CENELEC can provide the necessary standardization support in the digital sphere notably regarding increased competitiveness of European economy through automated and integrated standards conformity supervision, as part of the engineering processes (conformity by design).

¹ Goal 1 of Joint CEN and CENELEC Strategy2030

² Goal 2 of Joint CEN and CENELEC Strategy2030

These modern European standards will also enable improved efficiency in the use of product data (generated from SMART standards content) of industrial products throughout their entire life cycle. Furthermore, standardization can increase the ability of industry to comply with the essential requirements of Product Regulations, which are detailed in harmonized standards.

So, what would a successful version of a modern and strengthened ESS look like in 5 years?

Example 1: Alignment of common goals with the goals of the EC to deliver next generation standards, to supply them to our customers and a digitally integrated process for harmonized standards

The EC, CEN and CENELEC work together to define a common level of ambition for the digital transformation of the standards development process for harmonized standards, as well as the integration of digital harmonized standards, with the aim to:

- Use standardization as a tool for industry competitiveness.
- Strengthen relationships within the framework of the European Data strategy.
- Develop a strategic, coherent, complementary set of standards.

In support of the above ambitions and given that the time to place goods and services on the market continues to decrease, CEN and CENELEC are progressing on three Digital Transformation projects:

1. *Online Standardization* project, including the development of an online authoring platform.
2. *Standards of the Future* project, with the delivery of machine-interpretable standards content in a secured way.
3. *Open Source* project, with the development of a methodology to integrate Open Source activities and outputs in standardization.

The implementation of the Digital Transformation projects will be spread over the next years, in close collaboration with ISO and IEC. The outcomes of these projects will enable the ESS to continue to be state of the art. We strongly believe that it is essential to coordinate and work together to offer a unique user interface for our experts and ensure interoperability across the international, regional and national levels. This is also consistent with the EU objective to ensure that European stakeholders maintain a prominent role in international standardization.

The above projects will support the digital transformation of industry, in the scope of the Digital Europe Programme 2021-2027 as well as the Rolling Plan on ICT standardization. Coupled with digitally ready legislation, they will increase the efficiency of CEN and CENELEC's work to support the functioning of the European Standardization System and will increase the efficacy of (harmonized) standards as a pillar of the EU Single Market.

Example 2: EU Policy initiatives to make use of standards (e.g. Data Markets Act, Artificial Intelligence Act, Europe's Green Deal)

Example 3: Work together in strengthening the use of the NLF principles and apply to future legislation.

Future policy initiatives (e.g., Data Markets Act, Artificial Intelligence Act, Europe's Green Deal) should make use of standards or fast CEN-CENELEC standardization deliverables. Relevant legislation should make consistent reference to European harmonized standards to benefit from the in-built expertise and at the same time enabling innovation-friendly legislation.

We recognize the need to tackle climate change and the related environmental challenges as this generation's defining task and consider standards to be a critical enabler of the solutions needed for a green transition. As such, we aim to intensify our work, mitigating the environmental impacts of the products, services and processes we standardize– especially in high-impact areas such as energy, construction and transport and mobility, in part through developing standards to fully address the UN Sustainable Development Goals.

These efforts are linked with the ability to find consensus on the digital solutions that are currently emerging in new technologies that enable trust in those technologies.

Innovation, competitiveness, and sustainability are common elements through most of the policy ambitions for EU recovery and regeneration. By enabling processes that enable timely citation, the roles and responsibilities of the NLF principles can be better aligned for the quick and flexible solution seeking that the ESS has been designed to embrace.

Chapter 2: International leadership in standards development

The European Commission has set out its ambition to create a stronger Europe in the world while ensuring international reciprocity and protecting European values throughout the Single Market.

At global level, standards are instrumental for technological and industrial competitiveness and consequently we see economic world powers taking a strategic approach to standardization. Europe too must be influential and even seek to lead on topics of strategic relevance. ³ Using the European Standardization System to secure a geopolitical competitive position for Europe can be achieved through a two-fold approach by:

- 1) Shaping international standards.
- 2) Using international standards for access global markets.

Europe actively contributes to shape and use international standards (facilitating access to markets) and ensures global competitiveness. Today, out of around 3 500 CEN and CENELEC Standards cited in the Official Journal, 44% are based on International Standards.

As identified in the Industrial Strategy, standardization should be taken up as a geopolitical solution by the Industrial Forum and Industry Alliances. Challenges and opportunities to optimize the benefit of international standardization in support of the EU Single Market have been addressed at a high-level meeting between ISO, IEC, CEN, CENELEC and European Commission representatives in May 2021, which should be considered a best practice for developing common understandings of the strategic role of standards for the recovery of the global economy.

Example 4: Improve the common understanding of the relationship between European and international standardization

Develop a common framework for tracking European impact in international contexts. Organization of specific sectoral meetings and training sessions with concerned stakeholders (e.g., EC, HAS Consultants, European experts also active at international level) ensures fluid communication and cooperation on the relationship between European and international standardization. Direct discussions with HAS Consultants to allow simple and agile solutions crucial for the smooth finalization of standardization projects.

³ Goal 5 of Joint CEN and CENELEC Strategy2030

Example 5: Use existing groups to explore European interest and develop technical input, use these groups as best practices to expand into other areas of interest

Strengthening our collaborations and leadership at international level – for CEN in ISO and for CENELEC in IEC – is vital to ensure that European interests and expertise are considered. CEN and CENELEC, through the respective Vienna Agreement and Frankfurt Agreement, are determined to be at the forefront of these evolutions and take on a progressive, leading role in the global standardization community.

ISO and IEC, CEN and CENELEC are committed to the successful development of market driven standards that help meet today’s technological and societal challenges, as well as those that society will face in the future.

- Use existing groups including CEN-CENELEC Joint Technical Committees and Focus Groups (Blockchain, and Quantum Technologies) to focus European expertise, define European interests and values and give technical input into international standardization.
- Use Council Working Group to alert Member States and encourage Member States’ public authorities to participate in national mirror committees.

Example 6: Use Free Trade Agreements to stipulate the use of international standards developed by ISO, IEC as well as other international standardizing bodies that develop consensus standards through national delegations.

We should work together with the EC to ensure convergence on a common understanding of what is an international standard and then ensure that **all** WTO members have a systematic and guaranteed opportunity to contribute to the development international standards.

Chapter 3: Anticipation of Standardization Needs

The European Standardization System is a powerful tool to address changes in technological market needs and evolutions as it provides a strong framework to enable the seamless deployment of innovation.

The range of ESS deliverables, from full consensus documents (European Standards) to pre-standards including Workshop Agreements (CWA), offer the flexibility to adapt quickly to evolving market needs and deliver speedy solutions to ensure technological and innovation transfer to the market.

Transfer of new knowledge and breakthrough innovations and technologies is key for Europe to reach its ambitions for innovation (e.g., Recovery & Resilience ambitions, the Twin transitions (green and digital), the Revised Industrial Strategy, as well as Horizon Europe).

Horizon Europe aims to deliver solutions to some of the great challenges whilst also strengthening the EU's scientific and technological bases and the European Research Area (ERA) in order to boost Europe's innovation capacity and competitiveness while sustaining our socioeconomic model and values.

Therefore, we must work on how to translate more research results into innovative products and services that ensure the deployment and valorisation of cutting-edge research and outcomes of innovative projects.

Standards can serve as a catalyst for innovation and help anchor these outcomes quickly in the market. Every time technology advances, changing standards rather than legislation allows for innovation to thrive. Standards help shorten the cycle between initial concept and market access. The challenge is to allow innovations to be standardized as early as possible to enable European innovators to have a first mover advantage and set the standards for the market.

European standardization is a collective effort involving all stakeholders. The research and innovation community is a strongly influential stakeholder in that group. By working with standardization experts, this community supports the evolution of industry, technology, and societal solutions.

What are solutions or tools for some of the challenges today?

Timely citation

Timely delivery of standards to the market is crucial, and a mutual goal for both the European Commission, CEN and CENELEC. This reality is increasingly true as the world enters a new and constantly evolving digital era. In the absence of harmonized standards, manufacturers are not able to benefit in time from presumption of conformity using the standards and must assume extra costs for complying with the relevant legal requirements.

Standardization Roadmaps

An instrument for involving all stakeholders at an early stage and building a stakeholder community of experts in a technology is the Standardization Roadmap. Through them”, we map the standardization landscape of complex, often horizontal topics and this allows the development of plans for further standardization work in the evolving field. Experts from business, research, societal groups, and the public sector participate in developing Roadmaps through an open process. The Roadmaps contain clear recommendations for action and proposals for identify concrete standardization projects. If necessary, the roadmap can be revised to reflect the state of the art.

Roadmaps can help:

- Connect different stakeholder communities not yet in contact with standardization.
- Prepare for a more concrete Annual Union Work Programme.
- Contribute to the development of standardization requests that are market-relevant and acceptable to stakeholders.
- Coordinate the strategic and technical input to international standardization.

Anticipating these needs for prioritization and development of voluntary standards in new technical areas is an example of how to address as a core activity across the 11 Institutionalized Partnerships under Horizon Europe, the nine EIT Knowledge and Innovation Communities and the six Industry Alliances in areas of strategic interest for Europe. Connecting innovative industries, research and practitioners early in the standardization cycle will speed up the process and focus of the much-needed innovation transfer into the market. Build on the success of the CEN-CENELEC - JRC partnership, in particular the annual Putting Science Into Standards (PSIS) action that has identified and successfully brought new important technologies and the stakeholders to standardization (Hydrogen, Quantum, Organ-on-Chip).

Example 7: Collaborate in European standardization roadmaps on prioritized areas like hydrogen, quantum technologies and data.

Rooting standardization at an early stage in EU research and innovation projects will allow good practices to be promoted at the start of the innovation cycle and ultimately lead to a faster uptake of innovations and technology transfer into the market.

Together with the EC, CEN-CENELEC can increase the understanding and awareness of innovators and researchers about the benefits of standardization to valorise new knowledge (Innovation Awards), attract them to standardization (liaisons, Focus Groups...) so that together we can deploy standardization solutions (CWA, TS...) and importantly invent, adapt and evolve existing standards processes and mechanisms to be fully aligned to their needs (CEN-CENELEC Guides: *Research Consortium Bridge; Technology Transfer...*).

CEN and CENELEC have invested in reaching out to the research and innovation community and have participated in numerous European funded research projects to increase their understanding of the value of standardization and provide opportunities for them to bring EU funded research work into standardization. These efforts must be made systematic across the full Horizon Europe spectrum at project proposal and evaluation level, integrated as part of the European Partnerships work programme, connected to the European Innovation Council (EIC) and the European Institute of Innovation and Technology (EIT), as well as taken up and promoted during the European “Research and Innovation Days”.

Engaging research and innovation initiatives with standardization brings with it the opportunity to offer European technological advancements to the global market, overcoming economic and industrial borders.⁴ More importantly, standards build trust for innovation, promoting innovative products and services built with confidence among users and consumers.

Example 8: Incorporate standardization systematically in the Horizon Europe work programmes and include standardization as part of the evaluation criteria for project proposals.

Identifying and including standardization needs during the drafting phase of work programmes to ensure that standards development will be included in Horizon Europe projects. Let’s focus on training proposal evaluators on standardization and including standardization as part of the evaluation criteria at project proposal stage, as well as criteria for assessing the performance and results of projects.

Again, what does success look like for the ESS in terms of innovation and the anticipation of needs?

Example 9: Recognize standardization as tool for quick dissemination and capitalises on available resources for the improvement of the single market

Integrating the results of R&I activities in new standards will ensure their dissemination beyond the project consortium and increase their chances of successful exploitation.

⁴ Goal 4 of Joint CEN and CENELEC Strategy2030

Addressing the results of R&I activities in new standards can facilitate the market acceptance of a new technology. By setting up tools together for ad-hoc and follow-up financing for standardization or developing a more advisory relationship with the Member States, we can improve the exploitation potential and access to market of innovative results from projects which did not plan ahead to link with standardization (project-technical committee liaison for example). We therefore suggest planning an ad-hoc financing for standardization deliverables that can be developed by promising Horizon Europe projects after the end of their lifetime.

Example 10: Strengthen collaboration with high-impact schemes (EIC and EIT) as well as Partnerships, Communities and Alliances

Standardization is supportive of high impact schemes, such as the European Innovation Council (EIC) and the European Institute of Innovation and Technology (EIT), as well as the Partnerships, Communities and Alliances in their common objective to unleash Europe's innovation potential (e.g., developing roadmaps for standardization).

CEN and CENELEC activities can be relevant to:

- **EIC Pathfinder:** Standards are a crucial tool to value research results. Codifying the knowledge developed by early research stages in standards can help translate research results into market ready innovation and support the development of future and emerging breakthrough, market-creating and deep tech technologies.
- **EIC Transition:** Standardization can help researchers and innovators to develop the pathway and support the business case for commercial development of promising research results.
- **EIC Accelerator:** Innovative companies, including start-ups and SMEs, can benefit from taking part in setting new standards to create new markets and increase the speed of adoption of innovation.
- **EIT Knowledge and Innovation Communities (KICs):** We can help exploit the value of existing standards, use the potential of new standards to address challenges and mobilize the CEN-CENELEC expert network comprised of industry, consumers, and environmental and other stakeholder representatives. We can further help ensure that addressing global challenges makes the best use of international standardization in ISO and IEC.

Chapter 4: Education/ Skills/ Expertise

Technological and societal changes present new challenges within the European and global economic context, which means markets are evolving and new skills are in demand. To continue to prosper, European businesses must be competitive.

We therefore believe it is very important for the next generation of entrepreneurs to understand standards – what they are, what they do, and the positive impact they have on organizations, the economy and society at large. At a time when knowledge is increasingly abundant and innovation eco-systems are opening, it is crucial to raise awareness and spread knowledge about standardization as a powerful tool to bring new technologies to market and drive future businesses.

Standardization skills should be complementary to management and digital skills for the European industry to compete successfully in the global, innovation-based economy. The global race for talent requires the European workforce to acquire high-level skills and continuously improve them to boost employability and fuel competitiveness and growth.

Other regions of the world, notably Asia, have increased efforts on education about standardization with resulting benefits. Implementing a policy whereby standardization is a strategic competence means that standardization taught in universities and companies incentivizing their staff to get involved in the standardization process.

In the medium and long term, the lack of knowledge, skills and scientific research in Europe about standardization could well result in a reduction in the competitive abilities of European businesses.

Europe needs to maintain competitiveness of European businesses at world-class level and prepare current and future entrepreneurs, managers, and workers for the changing needs of markets in emerging technologies. A key factor in this will be education about standardization, using a wide spectrum of learning approaches including conventional and innovative methods.

We would like to work together to embed standardization not only within academic subjects, but also as part of business education and vocational education programmes and so that standards are integral to business strategic thinking.

Example 11: Uptake of standardization at business education level and the Vocational Education programme

Chapter 5: Services

Services

To conclude this document, we would like to introduce an area of potential for standardization: services. Today, services account for 70% of economic growth. Evidence shows that the market share and the employment generated by services will continue to increase as the emergence of a collaborative economy and new business models provide growth opportunity for EU service businesses. Nevertheless, the market for services is still fragmented and European companies and service providers, especially SMEs cannot fully benefit from its potential.

European Standards have a role to play in the integration and performance of the market for services. In fact, the use of standards can contribute to foster cross-border trade; create new quality jobs; enhance safety quality and performance; and support the protection of consumers, workers, and the environment. Standards can also boost public and private procurement processes for services (as proposed for goods).

Digitalisation, new business models ('servitisation'), globalisation and the change in buyers' patterns are among the trends that affect the way services are delivered and consumed. While these changes bring opportunities and challenges for both providers and buyers of services, they bring risks in terms of data security and privacy.

European Standards can make services more secure, accessible, and inclusive for vulnerable consumers. They help organizations manage complex service relationships, global supply chains and service level agreements.

Making the links with European legislation

Both the absence and existence of a European legal framework in a specific sector of activity can create circumstances under which service standardization could deliver benefits. Usually, the total absence of regulation in a specific activity is the reason for undesirable market practices and market players look for guidelines or best practices in the form of sectoral specifications or formal standards to organize the activity on a voluntary basis.

In line with the above, the Single Market strategy tends to avoid excessively burdensome regulations which can be problematic, leaving room for "self-regulation" of the sector through references of voluntary application.

EU regulation of a sector, if it exists, already establishes rules for performance and there might not be a need for standards. In other cases, though, this same regulation calls for the development of voluntary standards supporting its implementation. An example of this is the Directive on Postal Services.

Each sector of activity is unique, specific, and particular in its internal processes and its interface with the client. In assessing the convenience for service standardization, any factors or important consideration affecting the development and acceptance of a European Standard should be identified.

Example 12: Increase awareness about service standardization and define priorities together with Member States, regulators, and stakeholders

Define criteria that help identify priority sectors with higher potential to benefit from standardization and point at what level (national, European or international) the European Standardization System can better respond to the needs of different service sectors. Engage with Member States and stakeholders to identify priority service standardization needs.

About CEN and CENELEC

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

The members of CEN and CENELEC are the National Standards Bodies and National Electrotechnical Committees of 34 European countries.

European Standards (ENs) are developed through a process of collaboration among technical experts nominated by business and industry, research institutes, consumer and environmental organizations and other societal stakeholders. Once adopted, these standards are implemented and published in all of the 34 countries covered by CEN and CENELEC.

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

For more information, please see: www.cencenelec.eu