



HSbooster.eu
TRAINING ACADEMY

European Standardisation System



The HSbooster.eu has received funding from the European Union's Horizon Europe Framework Programme (HORIZON) - under grant agreement no 101058391.



- What is learned on Training session 1 – Introduction to Standardisation
 - Why do researchers need standards? Which are the benefits from use of standards and from participation in standards development?
 - What are standards? What is the role of standards in research process?
 - What is standardisation? What is consensus in standardisation?
 - Who develops standards?



10:00 – 10:10	Introduction
10:10 – 10:35	1st Training session 1st Mentimeter session 2nd Training session 2nd Mentimeter session
10:35 – 10:55	3rd Training session CEN-CENELEC in a nutshell 3rd Mentimeter session
10:55 – 11:15	4th Training session ETSI in a nutshell 4th Mentimeter session
11:15 – 11:30	Q&A and Closing

Objectives

To find answers to questions:

- How European standardisation system is set?
- What is the European standard?
- How do standards support European legislation? What are harmonised standards?
- Which are other standardisation deliverables than European Standard (EN) produced by ESOs?
- Who develops standards in Europe? Which are the European SDOs?
- How to access to European organisations for standardisation easily?

How is European Standardisation System (ESS) set?

- Role in establishing and strengthening the European Single Market.
- It is a unique standardisation system in the world, primarily because once published, the European Standard becomes the national standard in the 34 European countries, which enables the free circulation of services and products, facilitating cross-border trade – within Europe and the rest of the world.
- The European standardisation framework provided by European organisations for standardisation (ESOs) is based on having a single European standard implemented identically throughout the member countries with the obligation of withdrawing any conflicting national standards, and no new work can start on issues covered by European standards.

EU Strategy on Standardisation

Setting global standards in support of a resilient, green and digital EU single market

- The new strategy proposes 5 key sets of actions
 - Anticipate, prioritise and address standardisation needs in strategic areas
 - Improve the governance and integrity of the European standardisation system
 - Enhance European leadership in global standards
 - Support innovation (**Code of Practice on standardisation in the European Research Area**)
 - Enable the next generation of standardisation experts

Code of Practice on standardisation in the European Research Area

"Standards help researchers and innovators bring their innovation closer to the market and spread technological advances by establishing uniform criteria and by developing methods, practices and procedures publicly available in a formal document. European and international standards provide access to large global and regional markets for innovative new products and services." (The Code of Practice on Standardisation in the European Research Area, EC, 2023).

What is the European standard (EN)?

- The European standard is „a standard adopted by a European standardisation organisation.“



European standards approved by CEN and CENELEC are accepted and recognized in all member and associated countries.



- “European Standard (EN) – Used when the document is intended to meet needs specific to Europe and requires transposition into national standards, or when the drafting of the document is required under a standardization request from the European Commission (EC)/European Free Trade Association (EFTA). An EN is drafted by a Technical Committee and approved by ETSI's European National Standards Organizations.“

Only standards developed by the three ESOs (CEN, CENELEC and ETSI) are recognized as European Standards.

European standards as tools for researchers that can help to:



- Keep up with leading technologies
- Comply with regulations and certifications
- Find new partners
- Access technology and knowledge that supports entry to market
- Provide in-demand customer service
- Get R&I research proposal accepted
- Get professional recognition

The use of European standards is voluntary in the sense that there is no obligation to comply with them or be involved in their development



- Gain early exposure and the feedback from the standards community that is essential to be considered before taking the results of research to full-market deployment
- Get familiar with a roadmap for bringing research results into Standards
- Get review and recognition of research results through presentations at ETSI workshops
- Get R&I research proposal accepted

Case study: Lasimm - Large additive subtractive integrated modular machine

Standards for hybrid manufacturing

- **Context:** Traditional machines have normally been focused on only a single type of manufacturing process, but a new generation of machines is emerging that combine the features of individual manufacturing processes into a single platform. The Lasimm project developed a large-scale flexible hybrid additive/subtractive machine based on a modular architecture that is easily scalable. The machine features capabilities for AM and machining. The machine is also capable of using other functionalities, such as cold-work, metrology and inspection, that have proven to be good add-ons for specific applications.
- **Problem:** AM is a relatively new field, and it is important to develop associated standards to reduce/prevent risks, e.g. of the development of mechanical faults (cracks) in large parts, and help to improve repeatability and high process efficiency, e.g. for metal AM, in powder bed fusion technologies such as selective laser melting and electron beam melting.
- **Potential solution:** Standards for Additive manufacturing. At the beginning of the project a mapping on the existing AM standards was done. Standards were identified to ensure that the project results were in line with existing standards. This alignment was done through the following standardisation bodies: ISO, CEN, ASTM International, American Welding Society and the British Standards Institution. There was a significant focus on ISO and ASTM International, since these were the standardisation bodies identified as most relevant by the industrial users.

The project contributed directly to the further development of 12 existing ISO/TC 261 (AM) standards. The most notable of these were linked to ISO standards:

- ISO/ASTM DIS 52926-1 Additive manufacturing – Qualification principles – Part 1: Qualification of machine operators for metallic parts production Enquiry stage (40.99),
- ISO/ASTM DIS 52926-5 Additive manufacturing – Qualification principles – Part 5: Qualification of machine operators for metallic parts production for DED-Arc Enquiry stage (40.99).

1st Mentimeter session

- Please name three words that you associate with European harmonised standards.
-

How standards support European legislation? What are harmonised European standards (hENs)?

- ESOs have cooperated with the European Commission (EC) since 1984, when a cooperation agreement consisting of general cooperation guidelines was signed and later revised in 2003.
- As a result, around 30% of the European Standards have been mandated by the EC and EFTA in the framework of EU legislation in response to specific requests issued by the EC.
- These standards are known as **harmonised standards**, „a European standards adopted on the basis of a request made by the Commission for the application of Union harmonisation legislation.“
- Compliance with harmonised standards guarantees that products are in line with EU law.
- The standard provides a „**presumption of conformity**“ with the essential requirements of the relevant EU legislation

European Commission. (2023a). Single Market and standards, European standards, Key players in European Standardisation. Accessed on January 27, 2023. Retrieved from: https://single-market-economy.ec.europa.eu/single-market/european-standards/key-players-european-standardisation_en

CEN-CENELEC. (2023d). European Standardization. Accessed on January 27, 2023. Retrieved from: <https://www.cencenelec.eu/european-standardization/>

Official Journal of the European Union. (2012). Regulation (EU) No 1025/2012 of the European Parliament and of the Council of 25 October 2012 on European standardisation, amending Council Directives 89/686/EEC and 93/15/EEC and Directives 94/9/EC, 94/25/EC, 95/16/EC, 97/23/EC, 98/34/EC, 2004/22/EC, 2007/23/EC, 2009/23/EC and 2009/105/EC of the European Parliament and of the Council and repealing Council Decision 87/95/EEC and Decision No 1673/2006/EC of the European Parliament and of the Council. Accessed on January 27, 2023. Retrieved from: <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ%3AL%3A2012%3A316%3A0012%3A0033%3AEN%3APDF>

https://ec.europa.eu/commission/presscorner/detail/en/QANDA_22_662

Historically, EU legislation for goods, product or services, has progressed through five main phases:

- The traditional approach or „Old Approach“ with detailed texts containing all the necessary technical and administrative requirements;
- The „New Approach“ developed in 1985 restricted legislation's content to essential requirements, leaving the technical details to European harmonised standards. This in turn led to the development of European standardisation policy to support this legislation; A new policy cycle began in 1995, in the wake of the Commission White Paper on Growth, Competitiveness and Employment and of the Information Society policy initiatives. It is also around that time that the term “European Standardisation System” (ESS) started to be used more frequently, in order to designate the overall system governed by EU legislation (now Regulation 1025/2012) and comprising the ESOs and the NSBs;
- The development of the conformity assessment instruments made necessary by the implementation of the various Union harmonisation acts, both New Approach and Old Approach;
- The „New Legislative Framework“ adopted in July 2008, which built on the New Approach and completed the overall legislative framework with all the necessary elements for effective conformity assessment, accreditation and market surveillance including the control of products from outside the Union; Regulation 1025/2012, known as the Standardisation Regulation, provides a legal framework for standardisation in Europe, taking into account international trade, internal market and competition law, and secondly, it sets out a mechanism for the production of European standards, in line with the New Approach. The ESOs are the only bodies that can develop standards and other standardisation deliverables, as defined in the Standardisation Regulation (EU Regulation No 1025/2012) on European standardisation.
- The adoption of a new Regulation on Market Surveillance and a new Regulation on Mutual Recognition of goods lawfully marketed in another Member State in 2019.

Guidance on the implementation of directives based on New Approach/NLF is given in the European Commission's document The “Blue Guide” on the implementation of EU product rules 2022.

The duality of the European Standardisation System (ESS)

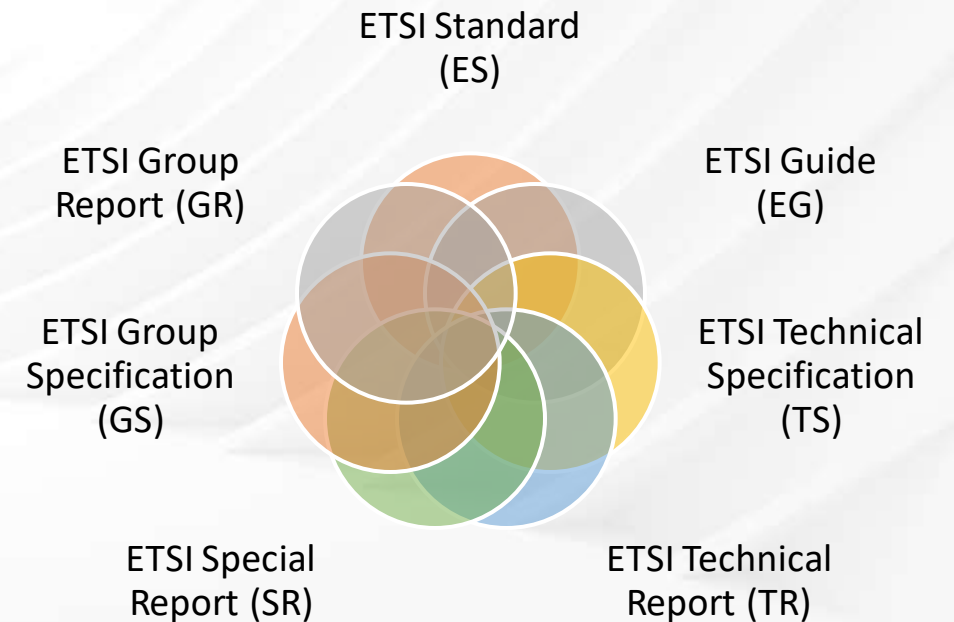
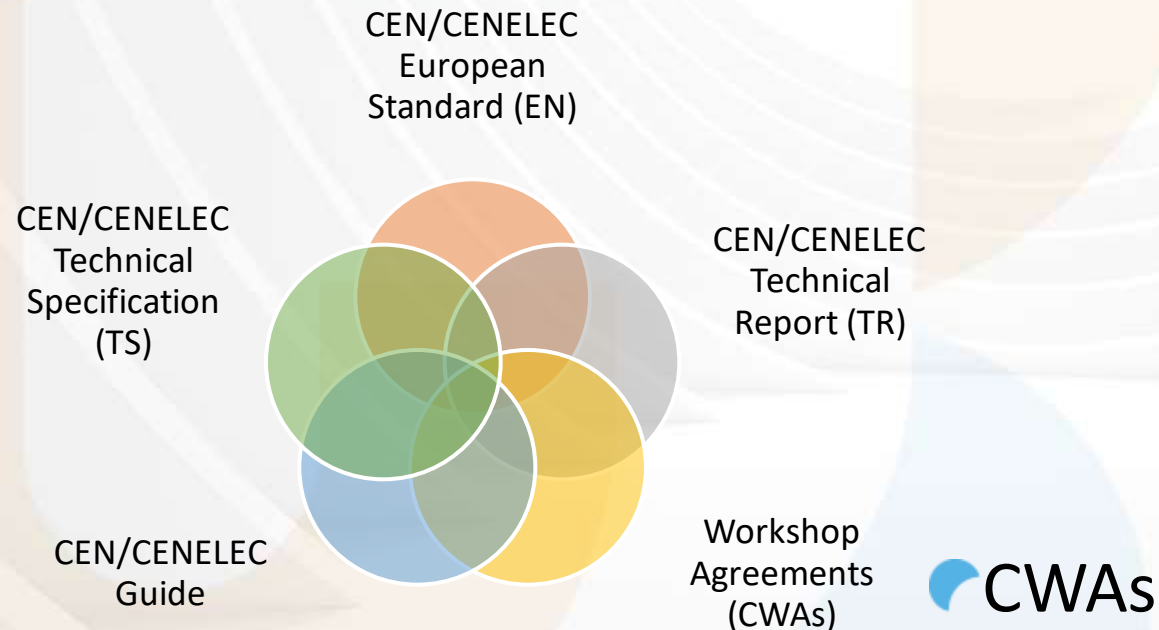
- The European Standardisation System (ESS) serves a **dual purpose** – to serve European industry and assist EU policy.
- European standards and standardisation deliverables are voluntary, stakeholder-driven, and consensus-based. European standards are widely implemented in the products and services of European and foreign companies and serve a variety of functions (compatibility, quality, and so on).
- At the same time, European Standards may also support EU policy and regulation. European Standards may be cited in EU regulations, and provide for a presumption of conformity with EU regulations.

2nd Mentimeter session

- Please name other standardisation deliverables than European Standard (EN) produced by ESOs
-

Other standardisation deliverables than European Standard (EN) produced by ESOs

None of the ESOs is only a producer of ENs



Case study: Unlocking new value from urban biowaste – VALUEWASTE & CWA 17866-2022 Standards support new solutions

- **Context:** The current situation with biowaste in the EU countries is that they produce 80 million tonnes of urban biowaste annually and import 77% of the required proteins for feed or food supplies.
- **Problem:** There are no sustainable and circular practices for handling biowaste in the EU and that there is a need to develop alternatives and sustainable sources of proteins and fertilisers.
- **Potential solution:** transition to a circular economy to handle biowaste in EU countries by identifying the critical factors for the successful implementation of the urban biowaste selective collection schemes.

CWA 17866:2022 "Key factors for the successful implementation of urban biowaste selective collection schemes"

Case study -SEA-TITAN: A Revolutionary Power Take-off Technology

Standards support new technologies

- **Context:** The SEA-TITAN project fosters a step towards change in the marine wave energy sector by designing, building, testing and validating a crosscutting and innovative Direct Drive Power Take-Off (PTO) solution to be used with multiple types of wave energy converters.
- **Problem:** Currently each original equipment manufacturer has different requirements, so pursuing the development of bespoke components not only limits the utility of the end product but also multiplies the development costs, causing a barrier to establish a dedicated supply chain and fully deploy this renewable energy technology in practice.
- **Potential solution:** The CWAs relate to a new concept of product, with the main characteristic of being modular and intergradable with different systems, intending to redefine the sector. If the product is accepted by the market and new open innovation is added, stronger standardization of the product at European or International level will be a market must, and the published CWAs will be the basis to grow from. SEA-TITAN promoted the creation of two CWAs:
 - CWA 50271:2021 “Recommendations for a modular and cross-cutting Power Take-Off for wave energy direct drive linear solutions”, is a product standardization deliverable covering requirements and recommendations for designing and manufacturing the power take-off unit and for wave energy technology developers or associated stakeholders to integrate the new power take off unit.
 - CWA 50272:2021 “Methodology, procedures and equipment required for the laboratory testing of a modular and crosscutting Power Take-Off for wave energy converters”, describes the laboratory testing methodology for the PTOs or their separate parts and the required equipment, covering common procedures for different types of PTO solutions.
 - IEC/TC 114 and CLC/SR 114 “Marine energy - Wave, tidal and other water current converters”, have been contacted and informed accordingly, so they can take the CWAs as the basis for further standardisation works.

THANKS!

Ana Ž. Kićanović
ana.kicanovic@fon.bg.ac.rs

GET IN TOUCH WITH US!



www.hsbooster.eu



[@HSboosterEU](https://twitter.com/HSboosterEU)



[/company/hsbooster-eu](https://www.linkedin.com/company/hsbooster-eu)



[HSboosterEU](https://www.youtube.com/HSboosterEU)