

European Standardization Organizations

Welcome to this webinar

Training – 'European Standards supporting the EU-India Strategic Partnership

*We start at
08:30 CET
13:00 IST*

Your webinar moderator



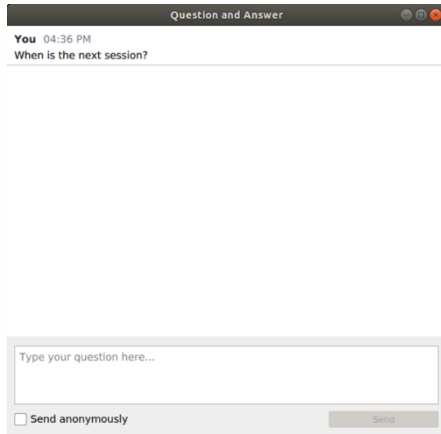
Els SOMERS

Project Manager Engagement
Governance & Partnerships

esomers@cencenelec.eu

Get the most out of the webinar today

- Use the Q&A panel to submit your questions



The screenshot shows a web browser window titled "Question and Answer". Inside, it displays a message from "You" at "04:36 PM" asking "When is the next session?". Below the message is a large text input area. At the bottom of the input area, there is a checkbox labeled "Send anonymously" and a "Send" button.

- Talk about us on Twitter [#training4standards](#) [@Standards4EU](#)

This item was first created and produced in India. It's an item you use frequently in the shower - what is it?



Answer C – Shampoo

The first ever shampoo was used by locals in India. Dried Indian gooseberry mixed with many other herbs was used to wash hair, a recipe that is still used in the country today. The word 'shampoo' is derived from the Hindi word, *champo*



1. Introduction

- ▶ CEN and CENELEC
- ▶ The European Single Market
- ▶ EFTA cooperation with the EU
- ▶ SESEI project – EU-India Strategic Roadmap

2. Standardization for:

- ▶ IPR & copyright
- ▶ Circular economy
- ▶ Railways
- ▶ Smart cities
- ▶ Cybersecurity
- ▶ Artificial Intelligence

When did European standardisation first commence being developed?



Answer A - 1960

The Agreement of principle was reached on 10 June 1960, during a meeting in Zurich attended by each EEC and EFTA country and ISO and IEC members, created “two parallel European standards organizations, one for ISO members and one for IEC members, and that the membership of these two bodies would be open to the ISO member bodies and IEC national committees in countries belonging the to the EEC and EFTA.”



60 years of contributing to European standardization



Read more: <https://www.cencenelec.eu/aboutus/60Years/Pages/default.aspx>

Or on social media: [#TrustStandards](#)

1. Introduction

Who we are and what we deliver

Mr Wim de Kesel

Chair TF India, Legrand Group



What is a standard?

- ▶ An international (ISO or IEC) or European (EN) standards is **an agreed, repeatable way of doing something.**
- ▶ A standard is a document that sets out requirements, tests and compliance criteria for a specific item, material, component, system or service, or describes in detail a particular method or procedure.

What is standardization?

WE ALL BENEFIT FROM STANDARDS



They support innovations, efficiency and quality.



They facilitate competitiveness and simplify trade.



They boost confidence and make products safe and sustainable.

- Standardization is a consensus-based process of agreeing voluntary technical specifications among all interested stakeholders.

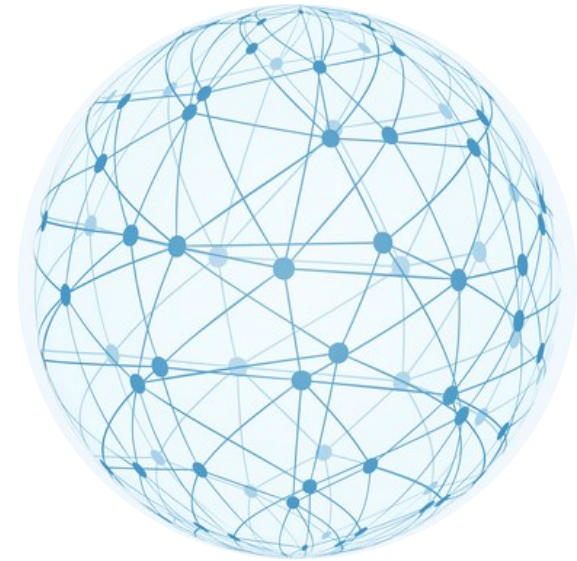
1 standard in 34 different countries



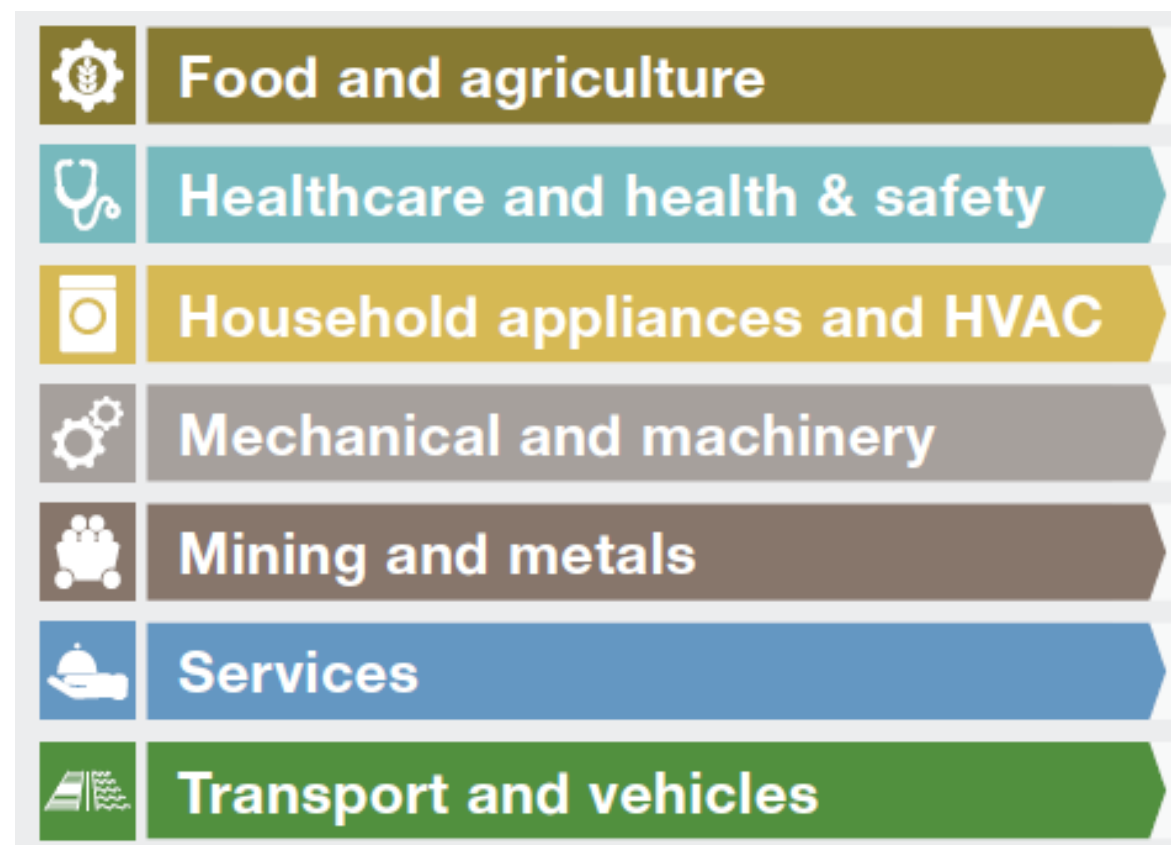
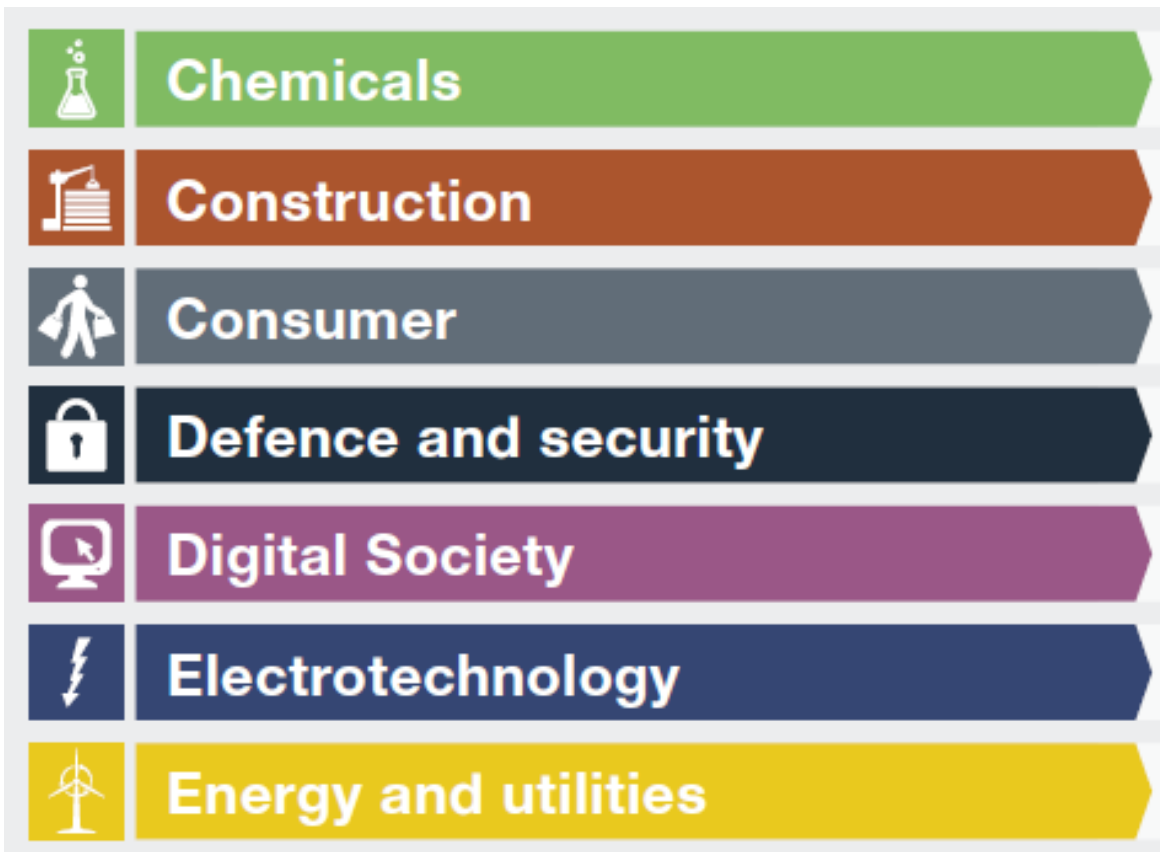
Network of experts

More than **200 000 experts** are connected

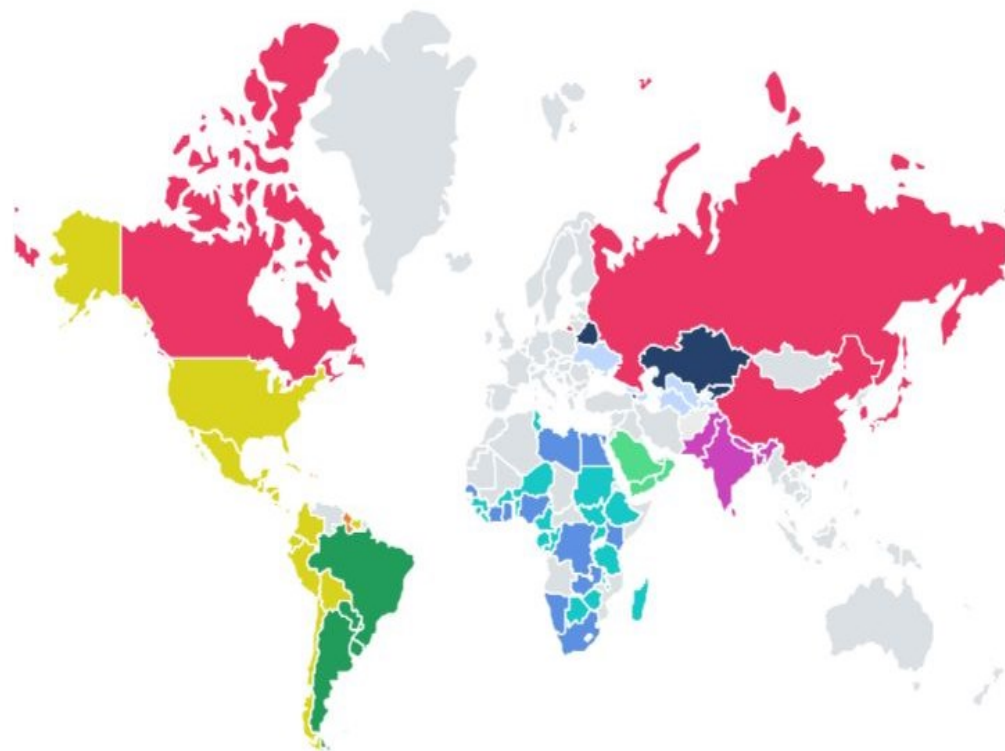
- ▶ **800** participants from European industry federations and societal stakeholders
- ▶ **30 000** delegates / experts in CEN and CENELEC
- ▶ **55 000** delegates / experts in ISO and IEC
- ▶ **160 000** participants through the national members of CEN and CENELEC



Our Business Sectors



Working with our global peers



5 Cooperation Agreements

- **JISC** (Japanese Industrial Standards Committee)
- **KATS** (Korean Agency for Technology and Standards)
- **Rosstandart** (Federal Agency for Technical Regulating and Metrology)
- **SAC** (Standardization Administration of the People's Republic of China)
- **SCC** (Standards Council of Canada)



12 MoUs

CEN-CENELEC-ETSI

- **AMN** (MERCOSUR Association for Standardization)
- **COPANT** (Pan American Standards Commission)
- **CROSQ** (CARICOM Regional Organization for Standards and Quality)
- **EASC** (EuroAsian Interstate Council for Standardization, Metrology and Certification)
- **GSO** (Standardization Organization of the Cooperation Council for the Arab States of the Gulf)

CEN-CENELEC

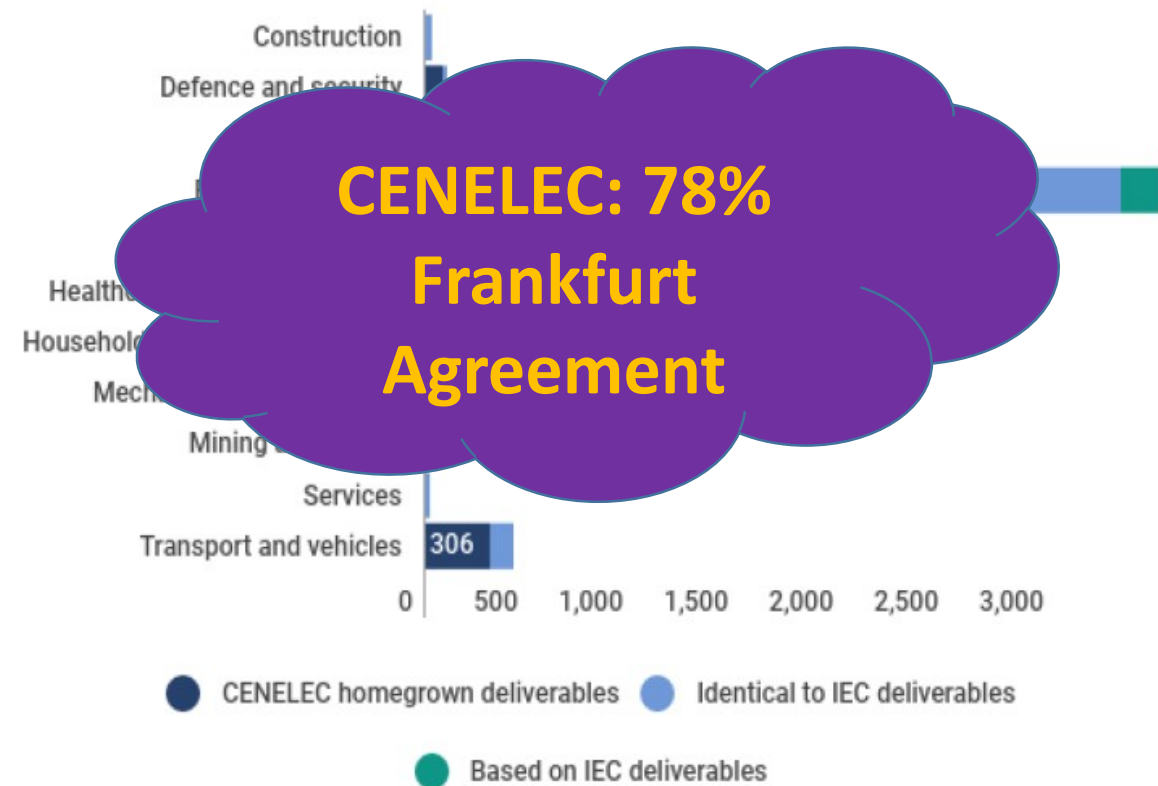
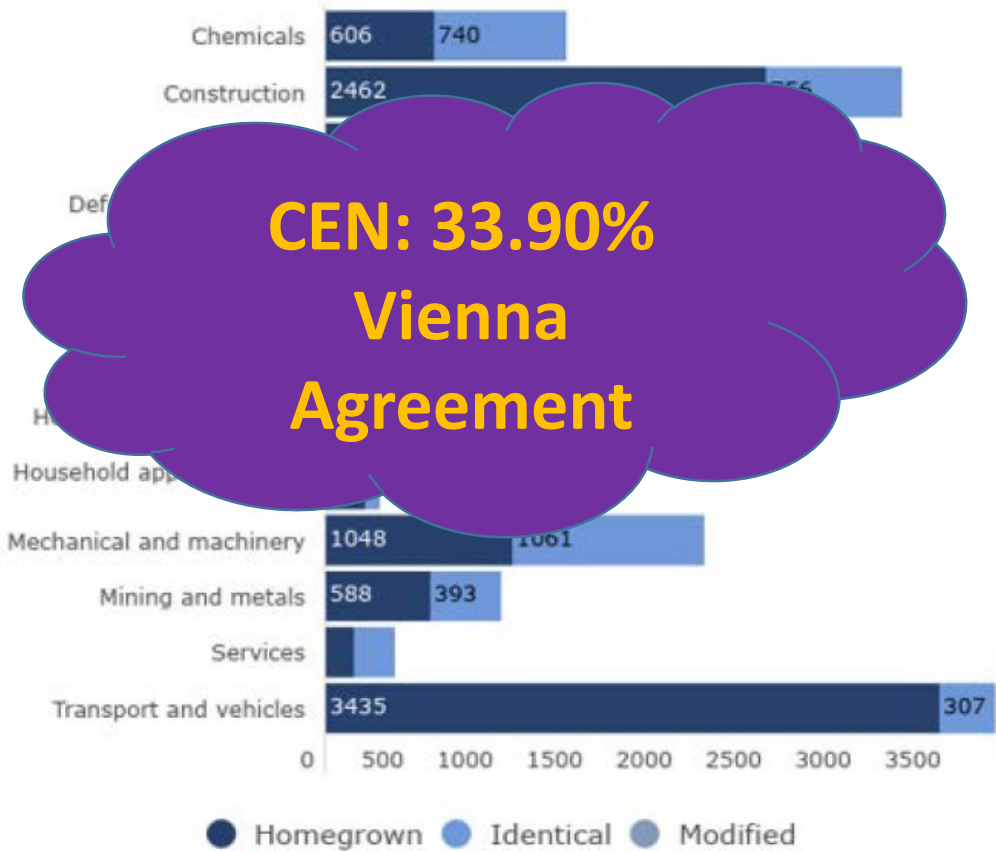
- **EEC** (Eurasian Economic Commission)
- **SARSO** (the South Asian Regional Standards Organization)

CEN

- **ARSO** (African Organization for Standardization)
- **SADCSTAN** (Southern African Development Community Cooperation in Standardization)
- **AIDMO** (Arab Industrial Development and Mining Organization)

CENELEC

- **AFSEC** (African Electrotechnical Standardization Commission)
- **AIDMO** (Arab Industrial Development and Mining Organization)
- **CANENA** (Council for Harmonization of Electrotechnical Standards of the Nations of the Americas)



Bureau of Indian Standards adoptions of international standards

Division	Published Standards	Identical standards					Modified standards				IND/NEQ
		IEC	JTC1	ISO	Others	Total IDT (S&D)	IEC	ISO	others	Total MOD	
Electronics and Information Technology Department (LITD)	1679	440	242	71	15	768	229	18	8	255	656
Electrotechnical Department (ETD)	1752	667	6	21				0	27	175	883
Civil Engineering Department (CED)	1828	0	1						7	39	1744
Transport Engineering Department (TED)	1161	0	0						1	57	869
Chemical Department (CHD)	1836	0	0						0	3	1598
Food and Agriculture Department (FAD)	2098	0	0						5	6	1747
Management and Systems Department (MSD)	391	0								1	162
Mechanical Engineering Department (MED)	1358	1								2	1116
Medical Equipment and Hospital Planning Department (MHD)	1397	65								2	994
Metallurgical Engineering Department (MTD)	1669	1							0	0	1471
Petroleum, Coal and Related Products Department (PCD)	1475	0							10	14	1123
Production and General Engineering Department (PGD)	2417	4						0	2	2	1561
Textile Department (TXD)	1355	0	0				0	3	0	3	1160
Water Resources Department (WRD)	459	0	0	48	0		0	2	0	2	409
Service Sector Department-I (SSD-I)	57	0	0	52	0	52	0	0	0	0	5
Service Sector Department-II (SSD-II)	1	0	0	0	0	0	0	0	0	0	1
Total	20933	1178	300	3378	18	4873	367	134	60	561	15499

India ≈ 26%

IDT: Identical Standard=> Standard adopted by national standards body which is equivalent to the International standard with no technical deviations

MOD: Modified Standard=> Standard adopted by national standards body which is equivalent to International standard with technical deviations. A national standard may include an International Standard in its totality together with additional technical provisions that are not part of the International Standard.

IND: Indigenous Standard=> Standard developed by national standards body and no international provisions remain in the national standard.

NEQ: Not Equivalent=> A National standard is not equivalent to the International Standard in technical content and structure and the changes have not been clearly identified. This also can include the case where only a minority in number or significance of the international provisions remain in the national standard.

(*) Data is compiled from the BIS website listed standards and their respective status

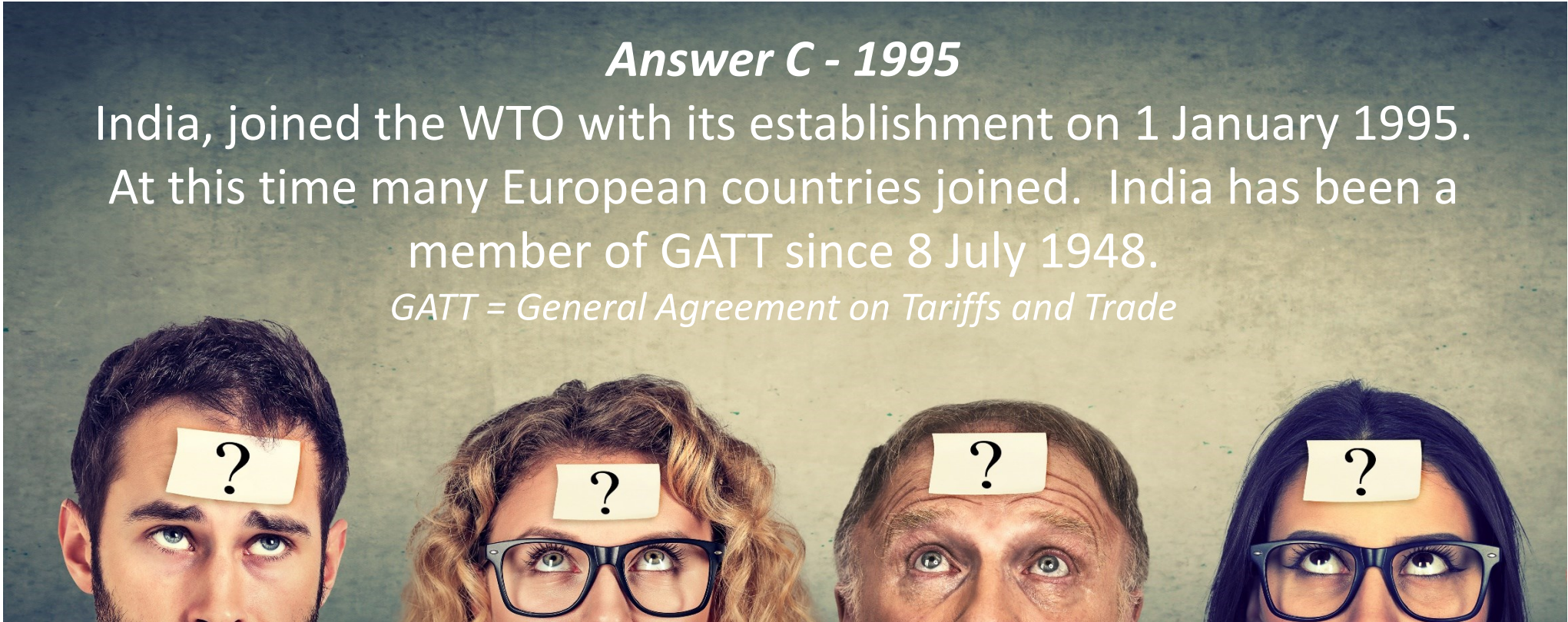
When did India join the World Trade Organisation?



Answer C - 1995

India, joined the WTO with its establishment on 1 January 1995.
At this time many European countries joined. India has been a
member of GATT since 8 July 1948.

GATT = General Agreement on Tariffs and Trade

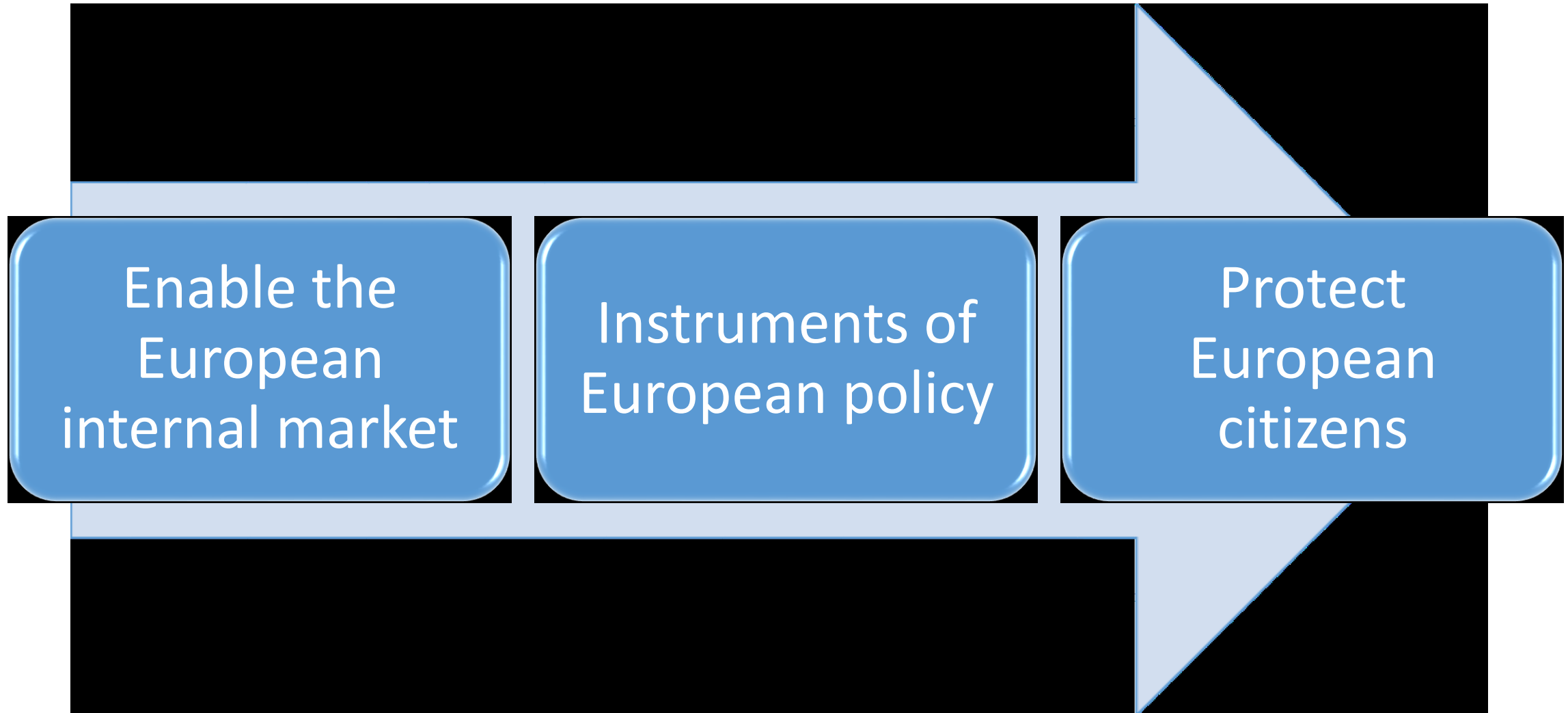


The EU Single Market

Mrs Silvia Vaccaro
European Commission - DG GROW
Unit B3 Standardisation



- ▶ Single Market - Enables people, services, goods and capital to move more freely.
- ▶ 'CE' mark - Appears on many products traded on the extended Single Market in the European Economic Area (EEA). It means that the products sold in the EEA comply with the relevant EU legislation, possibly by using the relevant European harmonised standard
- ▶ hENs = European harmonized standard developed by a recognized European Standards Organisation (ESO): CEN, CENELEC, or ETSI. Created following a request from the European Commission.
 - ▶ Manufacturers, other economic operators, or conformity assessment bodies can use harmonized standards to demonstrate that products, services, or processes comply with relevant EU legislation.



Objective: remove barriers to trade in the EU Single Market

► How - By task sharing:

- Legislation: mandatory, stable, predictable and safeguarding public interest (via listing the essential requirements)
- Standards: voluntary, constantly updated to the state-of-the-art, predictable, harmonising the technical specifications

► Areas: Protection of health, safety, environment and consumers



EFTA cooperation with the EU

Mrs Gudrun ROGNVALDARDOTTIR
Senior Officer - Internal Market Division
EFTA - European Free Trade Association



- ▶ **European Economic Area (EEA) Agreement: Iceland, Liechtenstein and Norway**
 - ▶ Full participation in the Internal Market: free movement of goods, services, people, capital
 - ▶ Cooperation in other important areas such as research and development, education, social policy, the environment, consumer protection, tourism and culture
 - ▶ Equal rights and obligations within the Internal Market for citizens and economic operators of the 30 EEA States
- ▶ **Switzerland:**
 - ▶ A set of bilateral agreements with the EU in most of the areas covered by the EEA Agreement
- ▶ **58% of EFTA exports, 67% of EFTA imports**

When did National standardisation activity start in India?



Answer D – 1947

National standardization activity started in India in 1947 with the establishment of the Indian Standards Institution (ISI) as a society under the Societies Registration Act 1860, to prepare and promote the adoption of national standards. The Government of India decided to create a statutory organization as the national standards body which was named as the Bureau of Indian Standards (BIS). The Bureau of Indian Standards Act was passed by the Parliament in 1986 and BIS came into being on 1 April 1987.



Seconded European Standards Expert in India (SESEI) Mr Dinesh Chand Sharma



- ▶ Co-financed by ESO, EC, EFTA (ca. 1.247 MEUR), Lead by ETSI and Project Steering Committee monitor the project progress
- ▶ Project Objectives:
 - ▶ promote the European standardization model, best practices and facilitate dialogue with Indian standards organisations
 - ▶ improve contacts between partners and relevant players in the Indian administration, industry and standardization bodies
 - ▶ monitor and gather regulatory and standardization intelligence and raise level of awareness
 - ▶ facilitate technical discussions
 - ▶ build and animate a network of specialists (among stakeholders and stakeholder's memberships) capable of addressing specific and/or technical issues;
 - ▶ To help EU/INDIA Industry on queries around Standards & Reg.
- ▶ Priority Topics:
 - ▶ ICT: M2M/IoT, Security, 5G, NFV/SDN, e-Accessibility, eHealth, eCALL etc.
 - ▶ Electrical equipment incl. Consumer Electronics: Smart Grid, Smart Meter, LVDC, Micro- Grid, Lift Escalator etc.
 - ▶ Automotive: Connected Cars, ITS, e-Mobility etc.
 - ▶ Smart Cities: Mobility, Waste, Energy, ICT and other topics of mutual interests such as Machinery Safety, Cableways, Circular Economy, Railways etc.
- ▶ www.sesei.eu , www.sesei.in , www.eustandards.in

- ▶ Leaders held the 15th European Union – India Summit on the 15th July 2020 and endorsed “[EU-India Strategic Partnership: A Roadmap to 2025](#)” as a common roadmap to guide the joint action and further strengthen the EU-India Strategic Partnership for the next five years.
- ▶ EU-India have a common interest in each other's security, prosperity and sustainable development
- ▶ Identified areas:
 - Foreign Policy and Security Cooperation and Human Rights
 - Trade and investment, Business & Economy
 - Sustainable Modernization Partnership
 - ✓ Climate change and clean energy
 - ✓ Environment & Urban Development
 - ✓ Information and communications technology
 - ✓ Transport & Outer Space
 - ✓ Health and Food Security
 - ✓ Research & Innovation
 - ✓ Artificial Intelligence
 - Global governance Effective Multilateralism
 - ✓ Connectivity and Cooperation in the Indian Ocean and the Pacific and Ocean Governance
 - ✓ Global Economic Governance and development partnership in third countries
 - People-to-people
 - ✓ Migration & Mobility
 - ✓ Employment and social policy
 - ✓ Education & Culture
 - ✓ Parliaments, Civil Society and Local/Decentralized Authorities
 - ✓ Institutional architecture of the EU-India Strategic Partnership

► Security

- Continue joint efforts to promote an open, free, stable and secure cyberspace and increase cooperation on cyber security, as well as combat and prevent cybercrime through the promotion of existing international standards and norms in their respective areas.

► Trade and investment, Business & Economy

- Strengthen mutual engagement through existing institutional mechanisms, notably the EU-India Trade Sub-Commission and its specialised working groups and dialogues, with a view to enhancing market access, particularly for SMEs, addressing existing trade barriers and preventing the emergence of new ones, seeking alignment to international standards and best practices, easing up the assessment of conformity and improving investment conditions.
- Continue the regulatory dialogue on pharmaceuticals and medical devices, notably via the established EU-India JWG on pharmaceuticals, biotechnology and medical devices, whilst fostering alignment with international standards and practices and ensuring the quality of pharmaceutical active ingredients and medicines. Strengthen cooperation to facilitate bilateral trade and market access for pharmaceuticals and medical devices. Promote a level playing field for the market players.

► Information and communications technology

- Continue ICT cooperation under EU-India JWG on sustainable digital infrastructure, services, norms and regulatory frameworks, ensuring interoperability of networks, and promoting international standards.
- Promote common approaches and standards for digital transformation of industry and society, including for advanced wireless technologies and their applications.

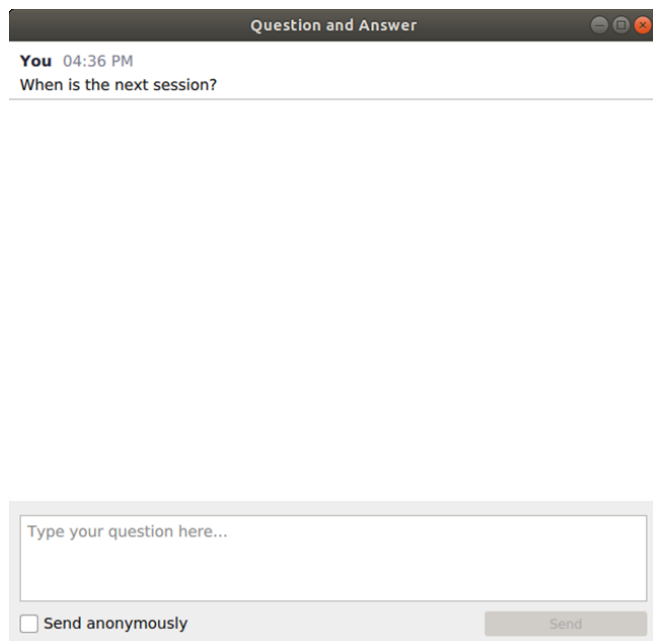
► Transport

- Implement concrete activities to develop the EU-India exchange in railways focusing on standardisation and regulation for effective railways, decarbonisation, digitalisation, including signalling and traffic management, innovation, investment and railway's role for social cohesion and inclusiveness, its role for connectivity and against congestion, including those aimed at ensuring the sustainability of railways, with the objective of fully exploiting their potential to contribute to climate objectives.

► Environment

- Enhance partnership between stakeholders on both sides to enable the sharing of standards, best practices in sectors such as water management.
- Enhance cooperation on standardisation and sharing of best practices in fostering an efficient and sustainable use of natural resources, notably by promoting more recycling and resource recovery, in both the formal and informal economy.

► Use the Q&A panel to submit your questions



The screenshot shows a web interface for a 'Question and Answer' panel. At the top, there is a header bar with the text 'Question and Answer' and three small icons (minimize, maximize, close). Below the header, a message from 'You' at '04:36 PM' is displayed, asking 'When is the next session?'. The main area of the panel is a large, empty white space. At the bottom, there is a text input field with the placeholder text 'Type your question here...'. Below the input field, there is a checkbox labeled 'Send anonymously' and a 'Send' button.

2. Standardization

- ▶ IPR & copyright
- ▶ Circular economy
- ▶ Railways

Q&A

- ▶ Smart cities
- ▶ Cybersecurity
- ▶ Artificial Intelligence

Q&A

Standards for IPR & Copyright



Jovana Radevic-Bartolucci

Manager Legal Affairs

jradevic@cencenelec.eu

Unique character



Recognition by [Regulation 1025/2012](#) on European Standardization (CEN-CENELEC-ETSI)

Public enquiry



Adhering to WTO principles (transparency, openness, consensus, effectiveness and technical coherence)



Adoption **ENs**
Withdrawal of the national conflicting standard

The framework



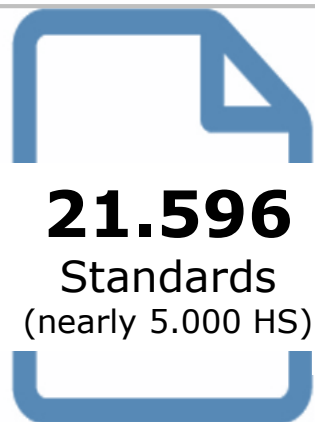
200.000
Experts



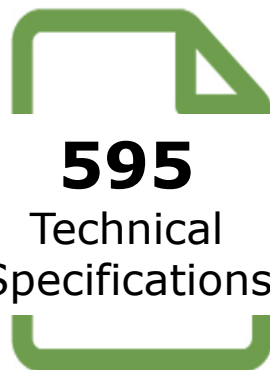
486
Technical Committees



1.809
Working Groups



21.596
Standards
(nearly 5.000 HS)



595
Technical
Specifications



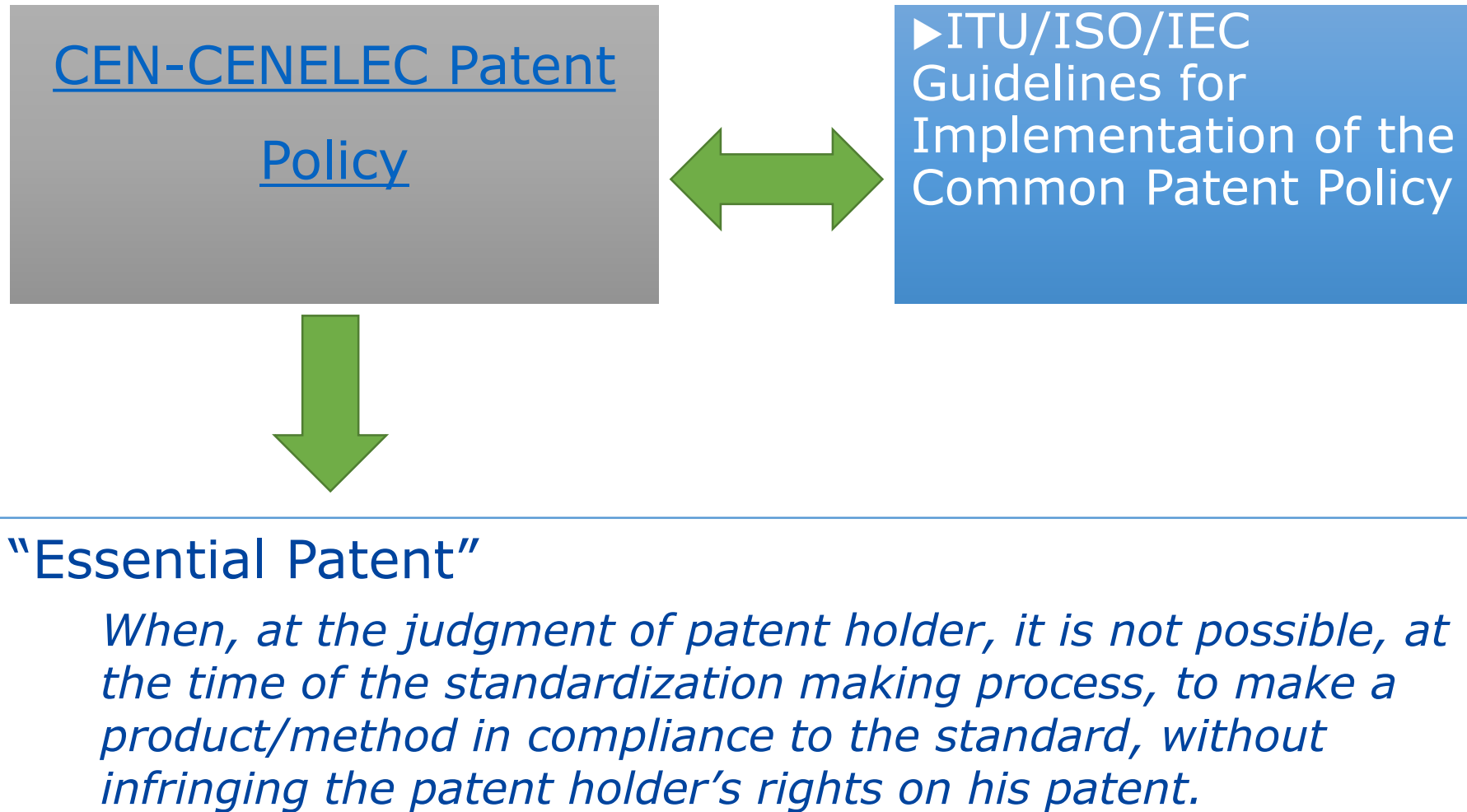
564
Technical Reports



479
CWAs

Statistical pack on www.cencenelec.eu

Standard Essential Patent (SEP)



CEN-CENELEC Guide 8

General Principles

- ▶ Voluntary early declarations...
 - ▶ ...at the best of experts' knowledge
 - ▶ FRAND conditions
 - ▶ TCs may discuss the technology relevance of declared patents, but **NOT** scope, validity & terms
-
- ▶ Confirmed by the **ECJ Judgment “Huawei v ZTE”**
 - ▶ FRAND commitments entail courtesy obligations on both SEP owners and prospective licensees

CEN – CENELEC Guide 10
Copyright Policy



- ▶ Copyright is owned by CEN and CENELEC
- ▶ NSBs and NCs enjoy the exclusive exploitation right on CEN and CENELEC publications in their countries

► Commissioner for the Internal Market
Thierry **Breton** said:

► *"Europe is home to some of the world's leading innovations, but companies are still not fully able to protect their inventions and capitalize on their intellectual property..."*

► Role of the IP:

Promote **green economy**

Increase competitiveness

(today only 9% of SMEs use IP)

COVID 19 crisis has shown dependences on **innovation**
and **new technologies**

New IP Action Plan





Andrea NAM

Project Manager Energy & Living
Standardization & Digital Solutions
anam@cencenelec.eu

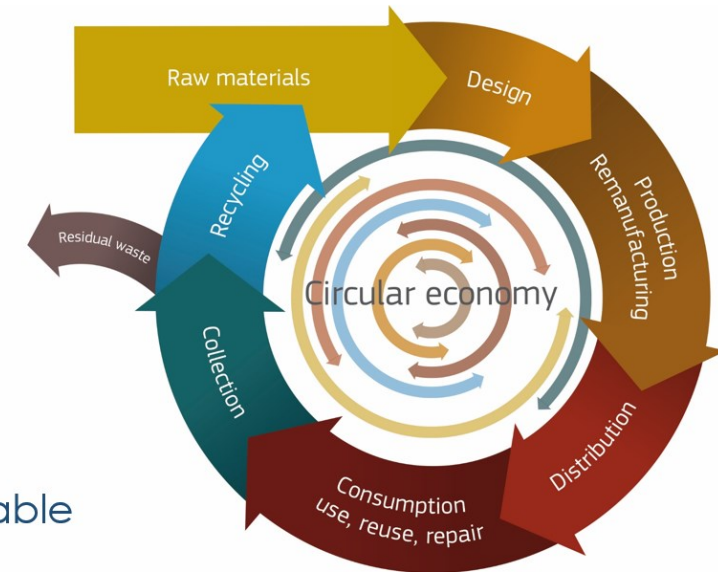
What is Circular Economy?

From a linear economy ...



 This is unsustainable

... to a circular economy



 This is sustainable

- mimicking natural ecosystems in the way we organize our society and businesses
- the value of products and materials is maintained for as long as possible
- materials are recycled and injected back into the economy

The policy context

- ✓ **Two European Commission Action plans** to make Europe's economy cleaner and more competitive (2015 and 2020)
- ✓ Ambitious **measures** to cut resource use, reduce waste and boost recycling with a **timeline**



The second EC CE Action Plan adopted in March 2020

35 actions, with a focus on:

- ✓ Sustainable products and production design
- ✓ Empowering consumers
- ✓ Key product value chains (electronics, batteries, packaging, plastics, textiles construction, food, water and nutrients)
- ✓ Reducing waste and pollution
- ✓ Lead global efforts on circular economy

Circular economy is broad, covers the whole economy:

- *CEN and CENELEC develop standards in support of all areas of the Circular Economy*

Standards are tools supporting the transition to a Circular Economy

- ✓ Sustainable design (eco-design)
- ✓ Consumer information
- ✓ (Material) efficient production
- ✓ Reduction of emissions
- ✓ Assessment of water & air emissions
- ✓ Help improving energy efficiency
- ✓ Promoting use of renewable energy sources
- ✓ Recycling, recovery and reuse
- ✓ Waste collection and treatment (e.g. WEEE, packaging) etc.



Eco-design

- **Ecodesign Framework** Directive (2009/125/EC) - requiring manufacturers of energy-related products to improve the environmental performance of their products
- **Implementing Ecodesign** Regulations (products) → **Standards** (measurement methods manufacturers can use to check compliance with Regulations) → put in on the EU market (presumption of conformity)
- Focus was on **energy performance/efficiency** requirements for specific energy related product groups (use phase)
 - ❖ **CEN/CENELEC Coordination Group on Eco-design (since 2012)**
 - ❖ **24 Technical Committees involved (e.g. CLC/TC 59X, CLC/TC 22X, CLC/TC 34, CLC/TC 100X, CLC/TC 2, CLC/TC 14, etc.)**

Examples: ≈ 180 published European standards (ENs)

Vacuum cleaners – External power supplies – Simple set top boxes – Refrigerating appliances – Circulators – Electric motors – Variable speed drives – Televisions – Dishwashers – Washing machines – Lamps – Air conditioners – Power transformers – Electrical lamps – Professional refrigeration – Fans – Water heaters – Space heaters – Ventilation units – Networked standby – Computers and computer servers – Non-household washing machines, dryers and dishwashers – Local space heaters – Solid fuel boilers – Welding equipment – Refrigerated commercial display cabinets – Air heating, cooling and high temperature process chillers – Tumble dryers – etc.

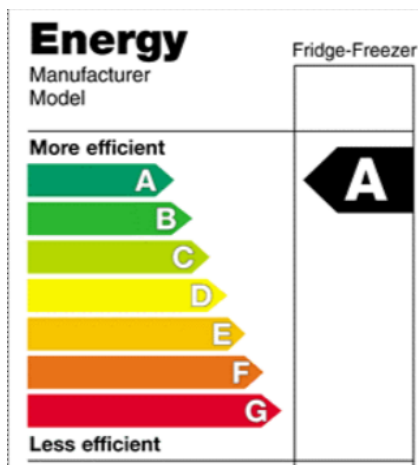
Material Efficiency

- New approach to product design – **material efficiency** requirements ► extended beyond use phase:
 - ✓ Extending product lifetime
 - ✓ Ability to re-use components or recycle materials from products at end-of-life
 - ✓ Use of re-used components and/or recycled materials in products

[CEN-CENELEC Joint Technical Committee 10 on Energy-related products - Material Efficiency Aspects for Ecodesign](#) (CEN-CLC/JTC 10) developed a **group of eight standards** containing **generic principles** to consider when **addressing the material efficiency** of energy-related :

- ❖ EN 45552 – 45557 (published between 2019-2020) General methods for assessing the energy-related products:
 - **durability**
 - **ability to remanufacture**
 - **ability to repair, reuse and upgrade**
 - **recyclability and recoverability**
 - **proportion of reused components**
 - **proportion of recycled material content**
- ❖ EN 45558:2019 'General method to declare the **use of critical raw materials** in energy-related products';
- ❖ EN 45559:2019 'Methods for providing **information relating to material efficiency** aspects of energy-related products'.
- ❖ CLC/TR 45550:2020 '**Definitions** related to material efficiency', which will constitute a collection of common terms used in deliverables

Information on energy-related products



- ▶ Eco-design **removes** from the market the least energy and resource efficient products
- ▶ Energy Labelling **enables** consumers to make a better and more rational use of energy by choosing more efficient products

Information for road vehicles

- ▶ **Fuel labelling** - Harmonized information on the compatibility between vehicles and the fuels available in filling stations and on the deployment of alternative fuels infrastructure (EN 16942 'Fuels - Identification of vehicle compatibility - Graphical expression for consumer information').
- ▶ **Labels for electric vehicle** power supplies - EN 17186 - 'Identification of vehicles and infrastructures compatibility - Graphical expression for consumer information on EV power supply'.



Higher level of material recovery is needed (secondary raw materials, recycling, recovery and reuse)

- ✓ [CENELEC/TC 111X](#) - EN 50625 series on collection, logistics & treatment requirements for WEEE (Waste Electrical & Electronic Equipment) – [see brochure](#)
- ✓ [CEN/TC 343](#) standards on solid recovered fuels for energy recovery in waste-incineration or co-incineration plants
- ✓ [CEN/TC 261](#) - standards on biodegradability of packaging materials (EN 13427 to 13432 on reuse and recycling of packaging)
- ✓ [CEN/TC 249](#) - standards on characterization of plastics recyclates
- ✓ [CEN/TC 366](#) - standards on materials produced from end-of-life tyres
- In the pipeline: standards for phosphorus recycling/recovery, plastics and micro-plastics in the environment, batteries design and recycling; EC draft request: mapping standards related to Treatment of Waste and Quality of Secondary Raw Materials



- **Batteries** – (draft Sreq) performance and sustainability requirements for rechargeable batteries
- **Packaging** – test schemes for home compositing of carrier bags, test methods demonstrating that plastic caps and lids of plastic beverage containers remain attached
- **Plastics** – (Sreq Plastic) recycling and recycled plastics requesting the development of standards for design for recycling, collection and storing, recycled content
- **Textiles** – determination of microplastics including fibre losses during washing
- **Construction** - integration of the circularity principles in all phases from design to deconstruction and developing a common approach across the value chain
- **Water/Chemicals** –horizontal method for the determination of the 20 target PFASs
- **Secondary raw materials** – ('Ancillary action') material efficient recycling and preparation for re-use of CRMs from different waste streams

Etc.

SABE **Topic Group 'Circular Economy'** – 98 members in 2020

Mapping and Analysis

- ▶ **Mapping** of CE ongoing, planned and missing standardization activities within CEN, CENELEC and beyond
 - ✓ Preliminary mapping completed in September 2020
- ▶ **Analysis** of the mapping and (first) **recommendations** expected in March 2021

Work Plan

- ▶ Development of short, medium- and long-term working plan for the TG-CE based on TCs and other stakeholders current and future needs:
 - ✓ Survey with CEN and CENELEC TCs
- ▶ **1st Draft Work Plan** expected in March 2021

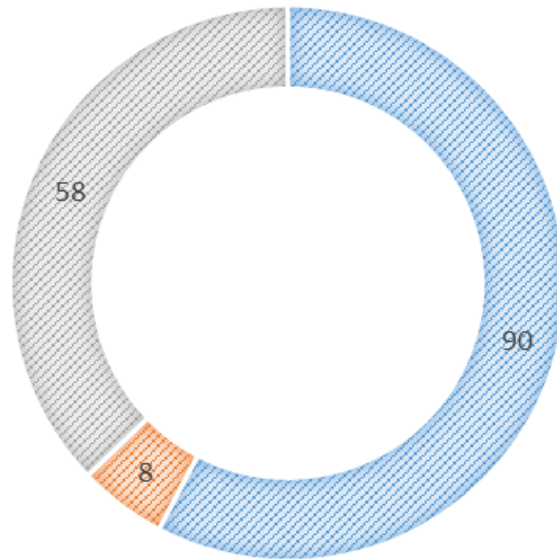


Summary of the mapping initiative

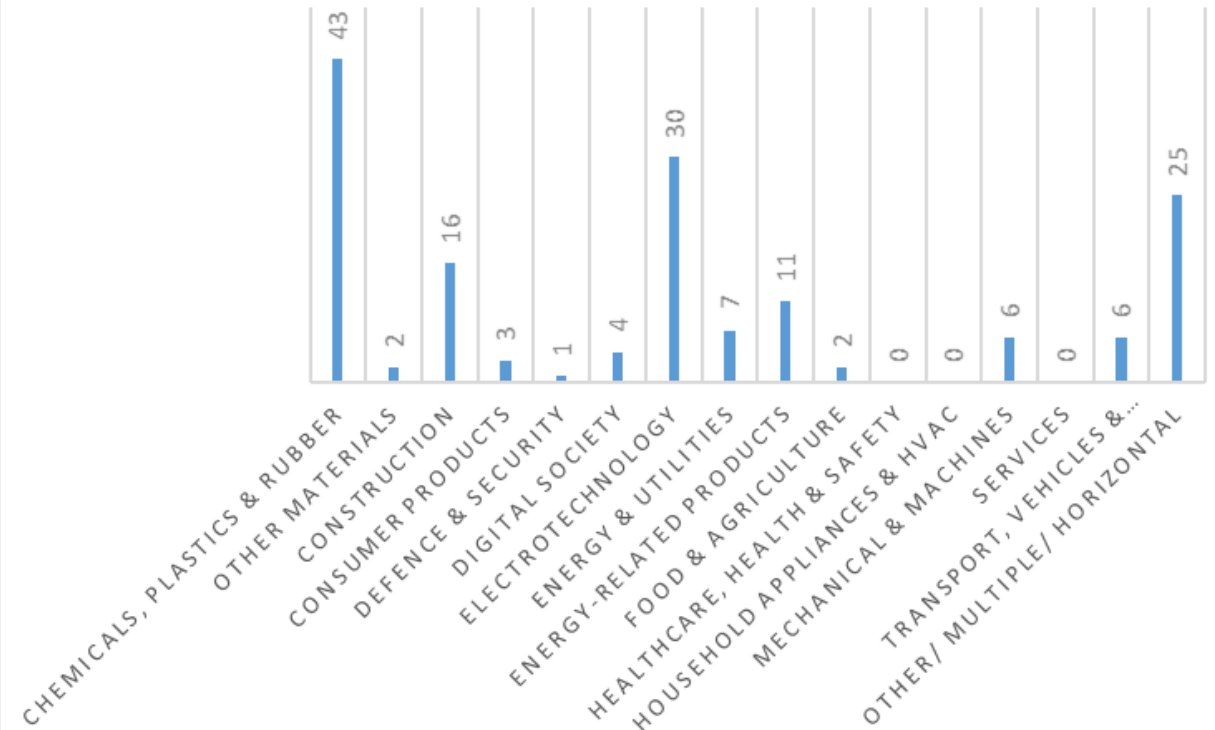
Existing activities

EXISTING ACTIVITIES: 152

- # of European origin
- # of national origin
- # of international origin



EXISTING ACTIVITIES PER SECTOR

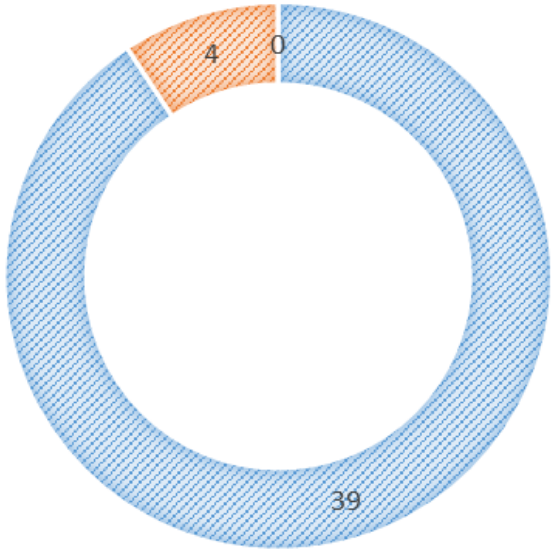


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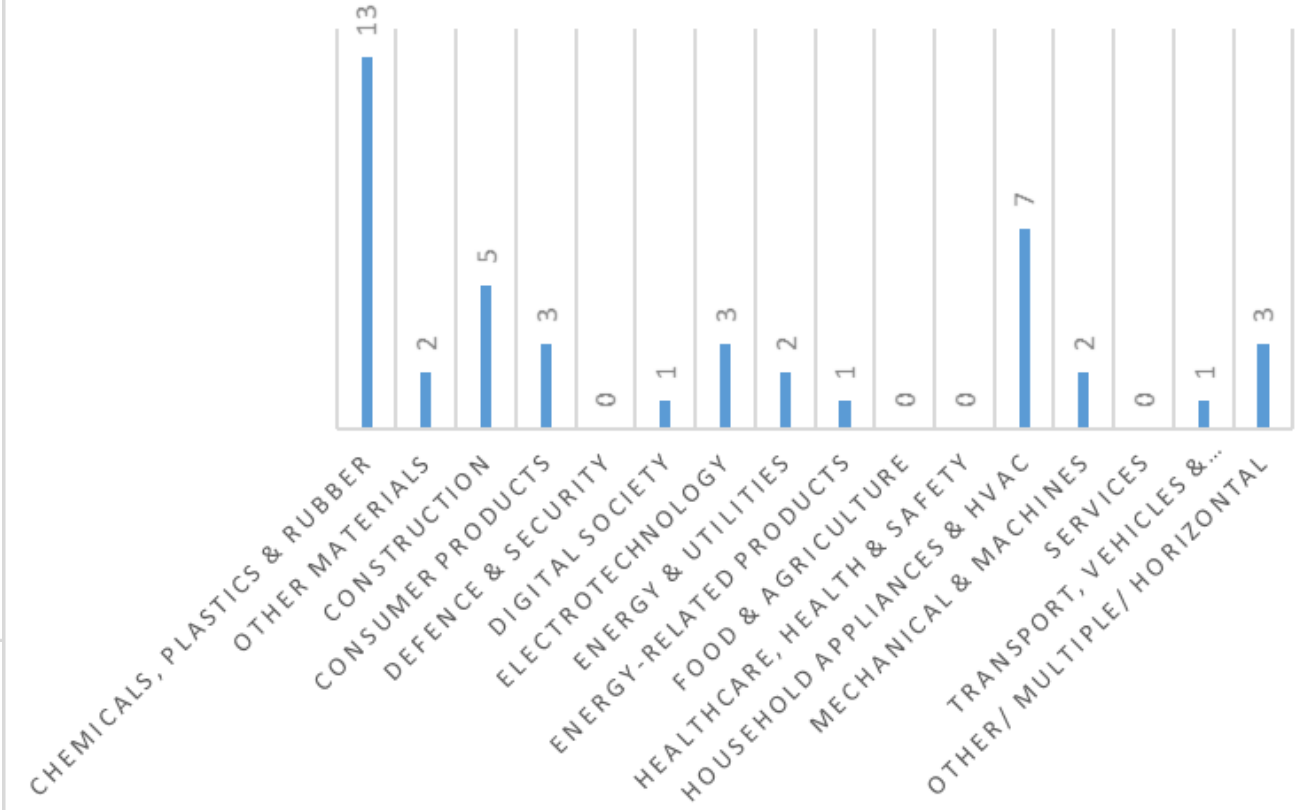
Standardization needs

NEEDS: 43

- # short term needs (I)
- # medium term needs (II)
- # long term needs (III)



NEEDS PER SECTOR



Influence of the Circular economy on standardization

- Standardization took a **more horizontal approach** (more demand for horizontal standards)
 - ✓ **Closer cooperation** is needed among the sectors (eg. the communication between the producers and recyclers on the design and use of materials improved)
 - ✓ Broad involvement and exchanges with **stakeholders** (industry, SMEs, societal stakeholders, policy makers) helps identify the needs
- Further improvement of the **cross sectorial and more strategic coordination** of circular economy-related standardization is necessary

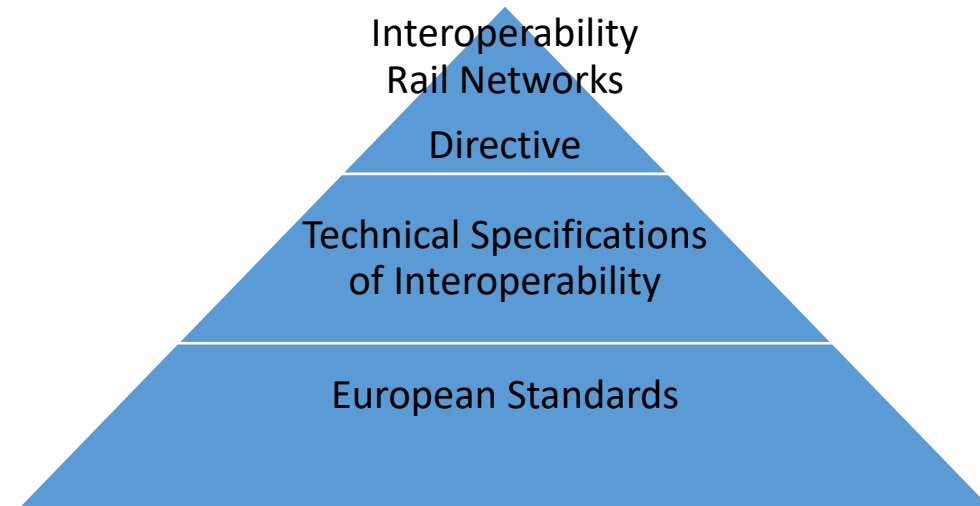


- What is Circular Economy and why it is considered important
- Standards can support of all areas of the Circular Economy
- The necessity of the cross sectorial and more strategic coordination of the circular economy-related standardization



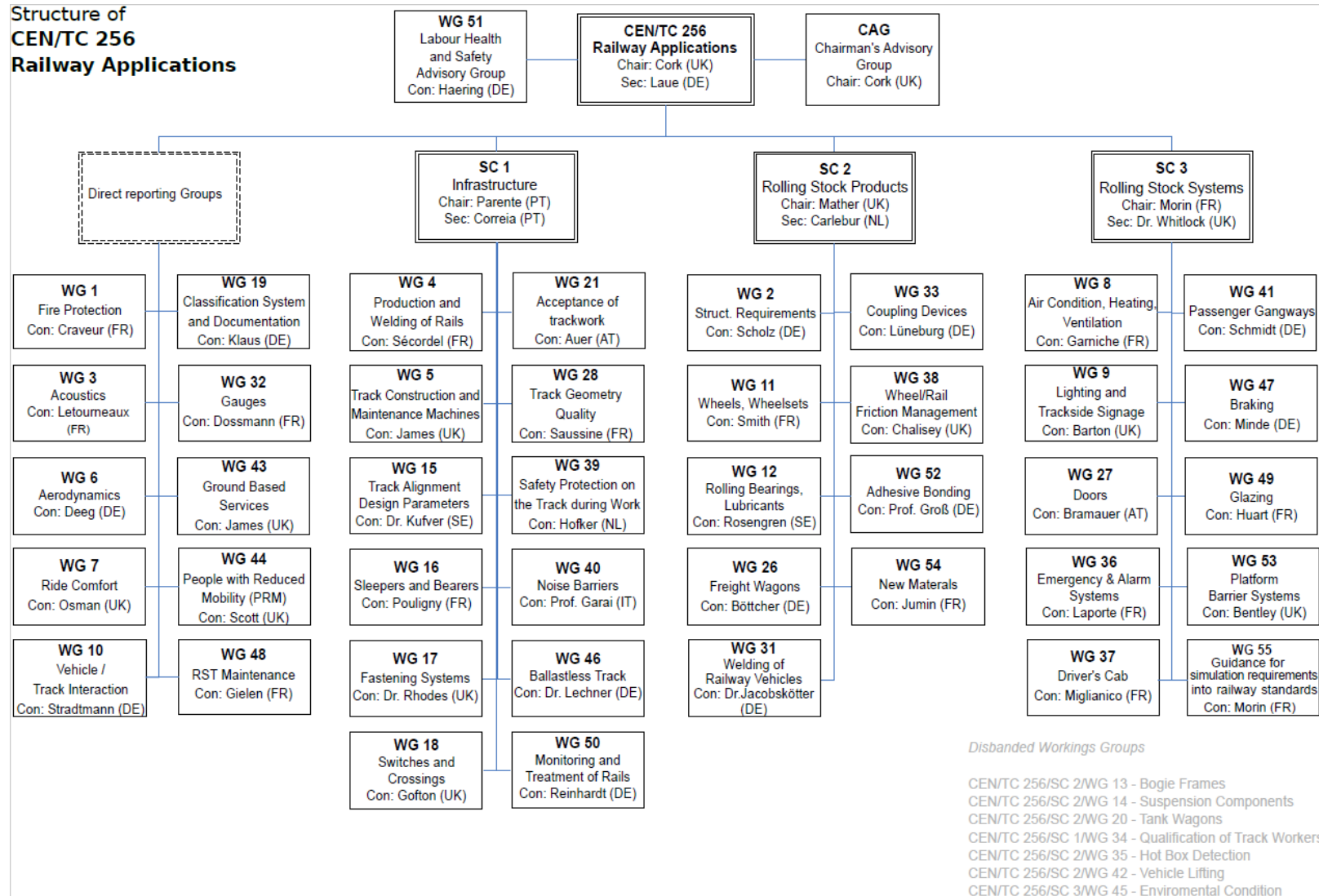
Marc-Antoine Carreira da Cruz
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- ▶ Specific regulatory context for the railways standards
- ▶ Directive (EU) 2016/797 defines the subsystems forming part of the railway system of the European Union.
- ▶ The Technical Specifications for Interoperability (TSIs) define the technical and operational standards which must be met by each subsystem or part of subsystem in order to meet the essential requirements of the Directive
- ▶ Mandate M/483 (currently in revision)



Standards for Railways: structure of the actors

Structure of CEN/TC 256 Railway Applications



Standards for Railways: structure of the actors

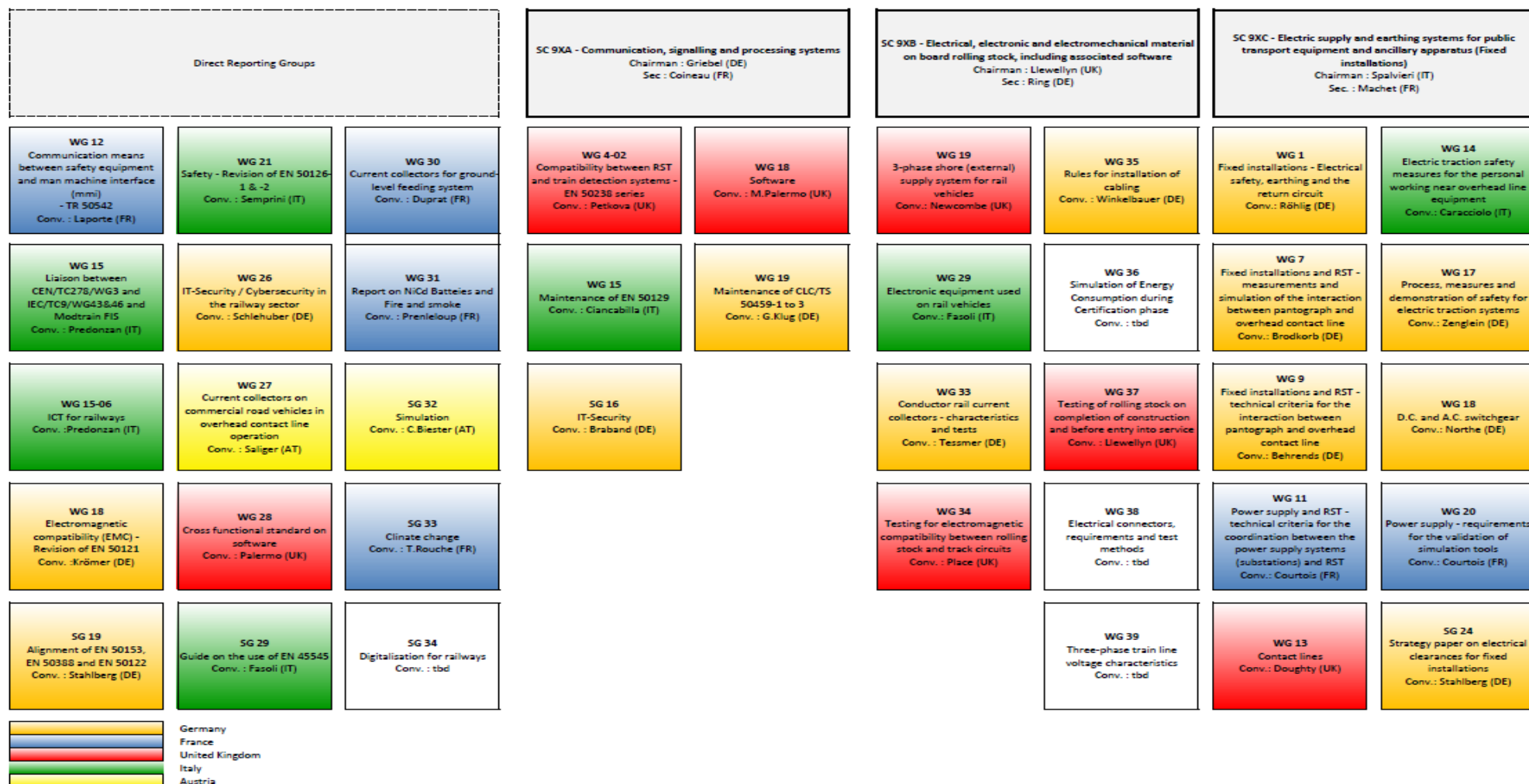


TC9X
Structure

CLC/TC9X
Electrical and electronic applications for railways
Chairman : Marmo (IT)
Sec : Miglianico (FR)
Sec ass. Luca (FR)

CAG
Chairman advisory Group

08th December 2020



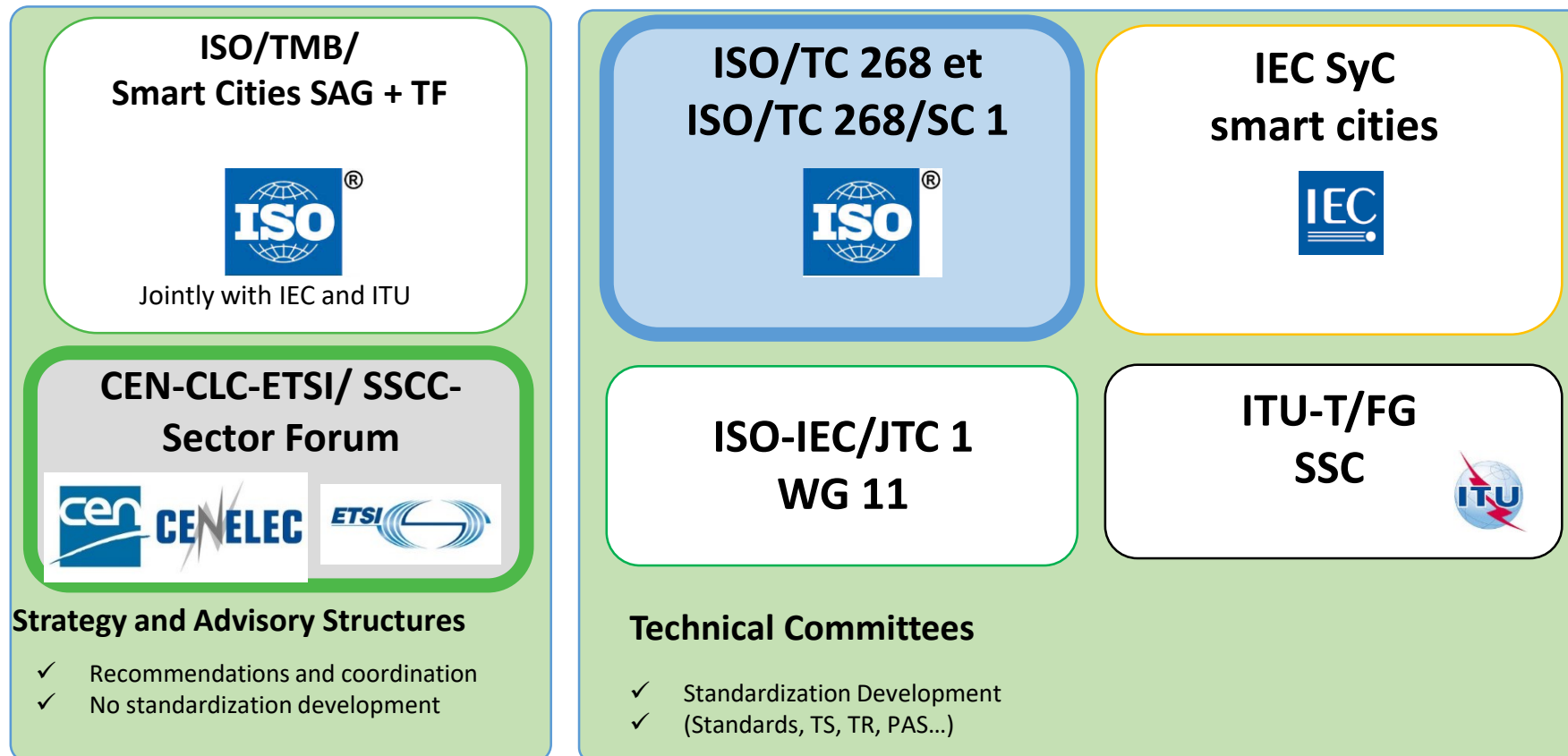
- ▶ Energy efficiency
- ▶ Cybersecurity
- ▶ Digital Automatic Couplers
- ▶ Digitalization
- ▶ New materials
- ▶ Vehicle and systems capacity
- ▶ Systems Resilience
- ▶ ...



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- ▶ SF-SSCC is a **joint strategy & advisory group of the European Standardization Organizations (ESOs)** that acts as an **advisory and coordinating body** for European standardization activities related to Smart and Sustainable Cities and Communities
- ▶ It **does not** itself develop standardization deliverables (European Standard, Technical Reports, Technical Specifications)

CEN/TC 465 - Sustainable Cities and Communities

General Work programme Published Standards

CEN/TC 465 Scope

Standardization in the field of Sustainable Cities and Communities, covering the development of requirements, frameworks, guidance and supporting tools and techniques. The proposed standardization plan will be developed to assist cities and community decision making, and support their implementation of sustainability and sustainable development. Standardization will focus on the development of a holistic and integrated approach in response to the needs of European Cities and Communities in both rural and urban areas. It is proposed that the standardization activities focus on:

- the purposes of urban sustainable development as defined by ISO 37101 related to Sustainable Cities and Communities, namely resilience, attractiveness, well-being, social cohesion, preservation and improvement of environment, responsible resource use, aligned with the main pillars of sustainable development (economic, environmental and social),
- all innovative approaches to solution and service delivery, designed for use by all Cities and Communities, Citizens and their interested parties as a means of achieving the sustainability of urban and rural development, with the aim of continuously improving solutions and services. and rural development, with the aim of continuously improving solutions and services.

Read more:

https://standards.cen.eu/dyn/www/f?p=204:7:0::::FSP_ORG_ID:2691595&cs=16170DF807760FE75788EA8A418EB170F

Digital Transformation and Sustainability!

Read more: <https://www.cencenelec.eu/STANDARDS/SECTORSOLD/SMARTLIVING/Pages/default.aspx>



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A closer look at CyberStandards

- ▶ Cybersecurity standards put forward requirements, guidelines, tools, techniques, risk management approaches to protect the cyber environment of a user or organization
- ▶ This environment includes networks, devices, software, processes, applications, services and systems that can be connected directly or indirectly to networks

Critical that all levels of an organisation are aware of the need for standards

Ensuring security throughout the lifetime of products, services and systems that constantly evolve to reduce the risk of harm from malicious exploitation

Three axes of cybersecurity

Organisation/people

- Security awareness
- Security training
- Secure operations
- Audit capability

Process

- Incidence response
- Secure Dev. And test
- Risk assessment
- Secure configuration
- Access protection

Technology

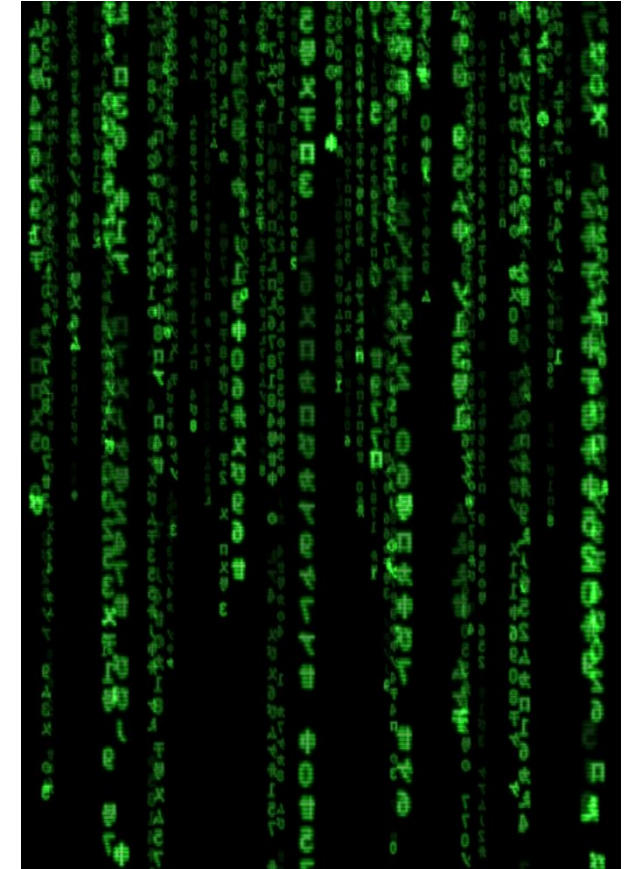
- Access protection
- User authentication
- Security logs
- Secure communications

Holistic approach to mitigate risks! Not all risks are technology-based!

A closer look at CyberStandards

- ▶ Standards applicable across domains:
 - [CEN-CLC/JTC 13](#) 'Cybersecurity and Data protection'
Information Technology (IT) systems
 - [CLC/TC 65X](#) 'Industrial-process measurement, control and automation'
Operational Technology (OT): industrial and critical infrastructures
- ▶ Vertical standards:
 - [CLC/TC 9X](#) 'Electrical equipment and systems for railways'
 - [CLC/TC 45AX](#) 'Instrumentation, control and electrical power systems of nuclear facilities'
 - [CLC/TC 57](#) 'Power systems management and associated information exchange'
 - [CLC/TC 62](#) 'Electrical equipment in medical practice'
 - [CLC/TC 205](#) 'Home and Building Electronic Systems'
 - ...

In close connection with international standardization activities in ISO and IEC



A closer look at CyberStandards

- [CEN-CLC/JTC 13](#) 'Cybersecurity and Data protection'
Information Technology (IT) systems

Virtual dimension: identify, correct and protect from large surface attacks

- [CLC/TC 65X](#) 'Industrial-process measurement, control and automation'
Operational Technology (OT): industrial and critical infrastructures

Physical dimension: ensure physical function – narrow surface for attacks

Those two different dimensions are merging: integration of physical machines with network sensors and software

Devising a cybersecurity strategy to reduce risks and mitigate cyber-attacks

- ▶ **Objectives:** to protect as many assets as possible and especially the most important
- ▶ However not realistic to protect all assets in equal measure
- ▶ Therefore critical to identify what is the most valuable

Prioritizing and mitigating risks: using a system approach

- ▶ Rely on **standards** for risk assessment and management!
- ▶ **EN ISO/IEC 27001** 'information security management systems – requirements'
- ▶ It provides a **global vision** for business, process, people and techno risks

A risk-based systems approach

Analysing the current state of risk throughout the organization

How to set up the appropriate risk culture

Quantitative risk assessments

Integration of IT risk management within the overall risk and compliance structures

Promotion of risk responsibility

Guidance on how to manage risk at different levels

Published European Standards



- ▶ [EN ISO/IEC 27017:2021](#) 'code of practice for information security controls based on ISO/IEC 27002 for **Cloud** services'



- ▶ [EN IEC 62645:2020](#) 'nuclear **Power Plants** – instrumentation and control systems – cybersecurity requirements'



- ▶ [EN IEC 62443-4-2:2020](#) 'technical security requirements for **IACS** components'



- ▶ [EN 16495:2019](#) '**air traffic management** – information security for organisations supporting civil aviation operations'

European Standards under development



- ▶ [prEN 17539](#) '**data protection** and **privacy** by design and by default'



- ▶ prEN 17XXX 'Managed security **services** providers requirements'
- ▶ [FprTS 50701](#) '**Railway** applications – cybersecurity'

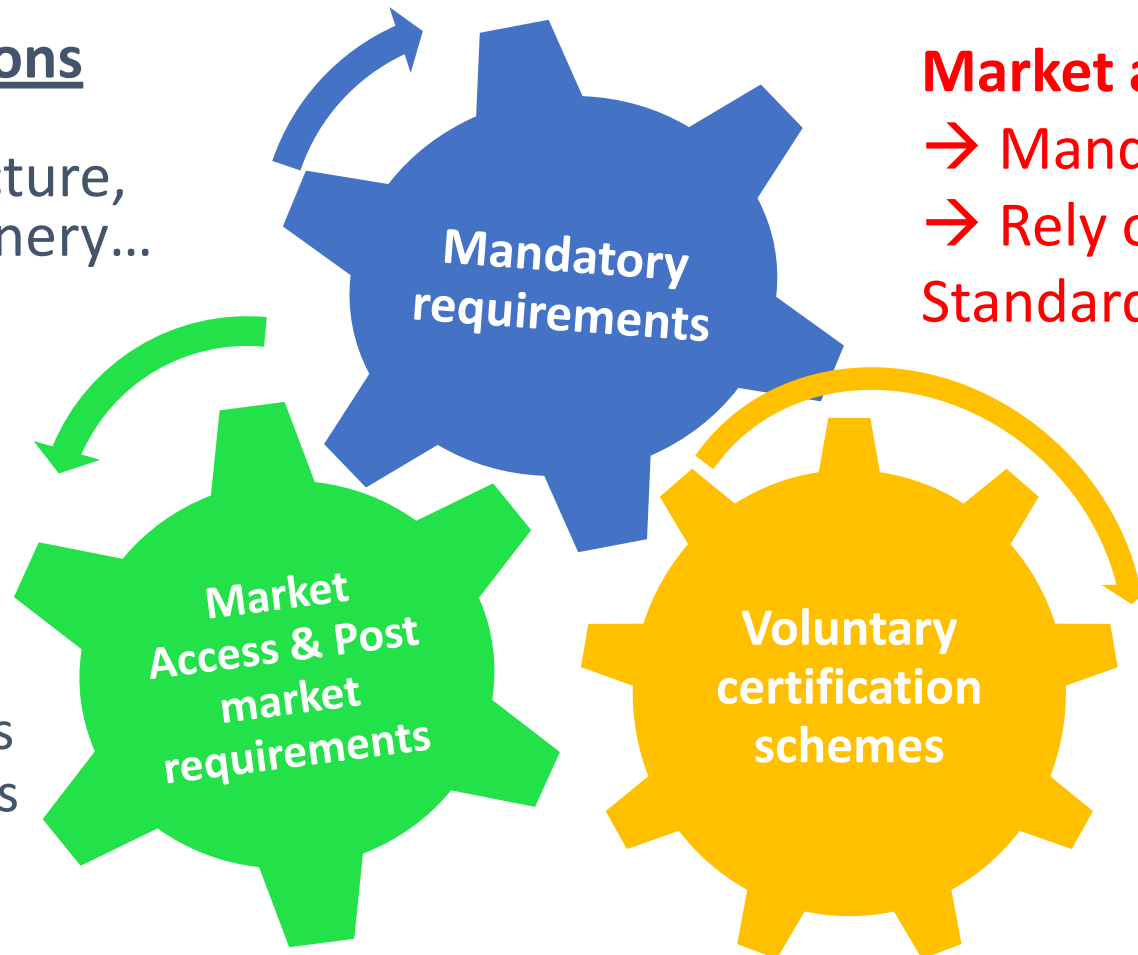
Cybersecurity: several, intertwined European Regulatory Frameworks

Directives and Regulations

Essential requirements
RED, Network Infrastructure,
Medical Devices, Machinery...

Standardization:

→ Pre and post
→ Horizontal for all sectors
→ Consistent for all sectors



Market access requirements

→ Mandatory
→ Rely on Harmonized Standards

Certification: market access and post market

→ Voluntary
→ Rely on ENISA/EC certification schemes



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- ▶ The [CEN-CLC/Focus Group on AI](#) was created in 2019 to identify specific European standardization needs for AI, and to act as a focal point for CEN and CLC TCs as well as the European Commission
- ▶ In the frame of ISO/IEC JTC 1/SC 42 activities and IEC SEG 10

The Focus Group published the CEN-CENELEC response to the European Commission's White Paper on Artificial Intelligence in June 2020

Followed by the publication of the CEN-CENELEC Roadmap for Artificial Intelligence, which was approved by CEN and CENELEC in October 2020

To ensure that AI is beneficial for citizens and society through Standards:

- ▶ Removal of technical barriers to trade
- ▶ Strengthening European competitiveness
- ▶ Harmonization of the European market
- ▶ Ensuring appropriate governance of AI
- ▶ Fostering trustworthiness
- ▶ Addressing European values



ftp://ftp.cencenelec.eu/EN/EuropeanStandardization/Sectors/AI/CEN-CLC_FGR_RoadMapAI.pdf

Proposed themes for European standardization

- ▶ Accountability
- ▶ Quality
- ▶ Data for AI
- ▶ Ethics
- ▶ Engineering of AI systems
- ▶ Safety of AI systems
- ▶ Security and privacy



With dedicated chapters on landscape analysis, AI use cases, R&D needs, standardization and regulatory frameworks, conformity assessment and certification for AI

The Roadmap recommends CEN and CENELEC:

The creation of a dedicated CEN-CENELEC Joint Technical Committee (JTC)

The Focus Group to work on an initial proposal in terms of scope, following which the Focus Group can be disbanded

The JTC to act as the contact point for the EC and SDOs active in the field of AI

Proposal for the creation of the JTC

The CEN-CLC/JTC shall produce standardization deliverables in the field of AI and related data, as well as provide guidance to other TCs concerned with AI

- ▶ Adoption of relevant International Standards (IS) and national specifications as European Standards (ENs)
- ▶ Development of European standardization deliverables to address European market and societal needs, as well as underpinning EU legislation, policies and values
- ▶ Contact point for TCs, SDOs, EC and stakeholders

BT decision to be taken end of February 2021

Published International Standards

STANDARD AND/OR PROJECT UNDER THE DIRECT RESPONSIBILITY OF ISO/IEC JTC 1/SC 42 SECRETARIAT (6) ↓

🔗 **ISO/IEC 20546:2019**

Information technology — Big data — Overview and vocabulary

🔗 **ISO/IEC TR 20547-1:2020**

Information technology — Big data reference architecture — Part 1: Framework and application process

🔗 **ISO/IEC TR 20547-2:2018**

Information technology — Big data reference architecture — Part 2: Use cases and derived requirements

🔗 **ISO/IEC 20547-3:2020**

Information technology — Big data reference architecture — Part 3: Reference architecture

🔗 **ISO/IEC TR 20547-5:2018**

Information technology — Big data reference architecture — Part 5: Standards roadmap

🔗 **ISO/IEC TR 24028:2020**

Information technology — Artificial intelligence — Overview of trustworthiness in artificial intelligence

*Towards the creation of a dedicated
European architecture of standards*

International Standards under development

⦿ ISO/IEC WD TS 4213

Information technology — Artificial Intelligence — Assessment of machine learning classification performance

⦿ ISO/IEC WD 5259-1

Data quality for analytics and ML — Part 1: Overview, terminology, and examples

⦿ ISO/IEC AWI 5259-2

Data quality for analytics and ML — Part 2: Part 2: Data quality measures

⦿ ISO/IEC WD 5259-3

Data quality for analytics and ML — Part 3: Data quality management requirements and guidelines

⦿ ISO/IEC WD 5259-4

Data quality for analytics and ML — Part 4: Data quality process framework

⦿ ISO/IEC WD 5338

Information technology — Artificial Intelligence — AI system life cycle processes

⦿ ISO/IEC WD 5339

Information Technology — Artificial Intelligence — Guidelines for AI applications

⦿ ISO/IEC WD 5392

Information technology — Artificial Intelligence — Reference architecture of knowledge engineering

⦿ ISO/IEC AWI TR 5469

Artificial intelligence — Functional safety and AI systems

⦿ ISO/IEC CD 22989.2

Artificial intelligence — Concepts and terminology

⦿ ISO/IEC CD 23053.2

Framework for Artificial Intelligence (AI) Systems Using Machine Learning (ML)

⦿ ISO/IEC CD 23894

Information Technology — Artificial Intelligence — Risk Management

⦿ ISO/IEC DTR 24027

Information technology — Artificial Intelligence (AI) — Bias in AI systems and AI aided decision making

⦿ ISO/IEC PRF TR 24029-1

Artificial Intelligence (AI) — Assessment of the robustness of neural networks — Part 1: Overview

⦿ ISO/IEC AWI 24029-2

Artificial intelligence (AI) — Assessment of the robustness of neural networks — Part 2: Methodology for the use of formal methods

⦿ ISO/IEC CD TR 24030

Information technology — Artificial Intelligence (AI) — Use cases

⦿ ISO/IEC AWI TR 24368

Information technology — Artificial Intelligence — Overview of ethical and societal concerns

⦿ ISO/IEC DTR 24372

Information technology — Artificial intelligence (AI) — Overview of computational approaches for AI systems

⦿ ISO/IEC CD 24668

Information technology — Artificial intelligence — Process management framework for Big data analytics

⦿ ISO/IEC AWI 25059

Software engineering — Systems and software Quality Requirements and Evaluation (SQuaRE) — Quality model for AI-based systems

⦿ ISO/IEC CD 38507

Information technology — Governance of IT — Governance implications of the use of artificial intelligence by organizations

⦿ ISO/IEC WD 42001

Information Technology — Artificial intelligence — Management system

- ▶ The ***WTO must review the implementation of the TBT Agreement Annex 3 Code of Good Practice for the Preparation, Adoption and Application of Standards***
- ▶ ***Standards*** underpin market access and ***must be a criteria for European trade initiatives with India***
- ▶ Regulations are mandatory, standards are voluntary
- ▶ ***National standards need to be based on international standards to offer global markets to industry***
- ▶ Conformity is essential for market access and international certification schemes are an essential tool to reach this
- ▶ Market surveillance is key for protecting society



European Standardization Organizations

Thank you for your participation!

Next webinars

[2021-03-10 – 10-10 webinar: Inclusive European Standardization – the case of Gender](#)

[2021-04-09 – 10-10 webinar: Standardization in Horizon Europe](#)